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Sculpture at the Royal Academy.

THE sculpture exhibition of this year at the Royal Academy begins, as all London knows, in the courtyard, where Mr. Watts's colossal equestrian group, "Physical Energy," is set up as the central object, a naked man on a naked horse: the two animals go remarkably well together. The horse seems to have been reined in sharply, and the man, with his hand partly shading his face, appears as if contemplating something before him which is to be undertaken, which is to be the object of his energy. There is immense power and vigour in the attitude and the physique of horse and rider, in the horse especially; if the modelling of the animal may seem rather rough, we may probably take it that this is not intended to be an exactly realistic reproduction of a horse, but to some extent purposely conventionalised into a sculpturesque translation of equine form and vigour, just as the head of the horse in the tympanum of the Parthenon was to a certain extent conventionalised by the Greek sculptor. A great deal of force is added to the head of the horse by the arrangement of the short upstanding mane so as to give an angle to the outline of his crest. As a matter of line, the group does not compose equally well in all directions; its best aspect is as seen from the left-hand side of the horse. But it is a work of genius, and most modern equestrian statues would seem comparatively feeble and mannered beside this symbol of strength and vigour translated into sculptural expression.

In the Octagon, the visitor is confronted by the marble edition of Mr. H. Pegram's "Sybilla Fatidica," before exhibited at the Academy in plaster, if we remember right. This work has been bought with the Chantrey Bequest, and the purchase is one of those which have been found fault with by the critics of the Academy in respect of their management of Chantrey's Trust. It is certain that the Academy, which has made most of its Chantrey purchases from among the pictures of each year and has paid little attention to sculpture, has in former years passed over works in sculpture which were better worth purchase. We should have liked, for instance, to have seen Mr. Colton's fine and poetic work, "The Crown of Love," exhibited in 1902, secured for the Chantrey collection. But we cannot say that we think the present purchase is not justifiable. The subject, perhaps, is not very interesting; but the figure of the nude young woman who hides her face on the knees of the sibyl, in dread of the result of the inquiry into her fate, is a very fine and powerful piece of sculptor's work, a modelling of the figure in a very difficult position. Mr. Mullins's life-size group of Isaac and Esau, also a marble repetition of a work before exhibited in plaster, might we should have thought have had equal claim to consideration; it is a finer subject and, in a decorative sense, a better composition; but it must be admitted that the difficulties to be grappled with were less, the problem simpler. Considering how little has hitherto been done for sculpture out of the Chantrey fund, both works might well have been purchased. But if only one work were to be selected out of this year's sculpture, we do not know that there is any one which has better claims than the "Sibylla," leaving out of consideration those which were special commissions, and therefore not available.

Among the works ranged around the Octagon we first notice two fine and broadly treated bronze figures by Mr. Alfred Turner, which are intended to form part of the Queen Victoria Memorial at Sheffield. Of the first of these, representing "Labour," we give an illustration. It is a fine and dignified figure of a man of Herculean strength, resting for a moment with his heavy hammer leaning against his knee. The sculptor has contrived to treat the realistic garb of labour with sculpturesque breadth, though we must say that we do not like boots in sculpture; they are better, however, in bronze than in marble. The other figure, "Maternity," that of a woman with two small children, is also treated finely as to the drapery and general composition, but the head is rather characterless. Between these is Mr. Pomeroy's kneeling figure of the late Archbishop of Canterbury, in a heavy brocaded robe, which falls into great folds in a very effective manner; the head is very fine, and with an expression of peace and benignity very suitable in a monumental figure, and happily at variance with the reputation for brusquerie which attached to the original during his lifetime.

The keystone to the new building for the Royal Friendly Society, by Mr. Drury, of which an illustration is subjoined, is a fine head, but the foliage which surrounds it is somewhat too

Keystone, Royal Friendly Society's Building. By Mr. Alfred Drury, A.R.A.

naturalistic for combination with architectural decoration. Mr. Taubman's "The Sandal," of which we give an illustration (see plate), is one of those illustrations of a moment of human action, representing no idea save pure beauty of form and line, for which the art of sculpture is peculiarly adapted. There is no story, no special sentiment attached to this; it is a momentary pose of life caught and fixed by the sculptor. This is the class of work which represents sculpture in its purest and most abstract form: the least of all adapted to meet popular taste in this country, where people always want a story—an incident, and cannot understand that in sculpture pure beauty is an end in itself. Mr. Jennings's "Three Generations of Time" was one of the best works exhibited in the students' competition for the gold medal this year; we have already both described and illustrated it. Mr. H. Pegram exhibits a terra-cotta figure of "Pan," capital in the modelling of the figure with its goatish legs, but the head is too human, too pleasant, too modern for Pan, an ancient rural deity to whom something of the grotesque belongs; Pan is a purely Pagan conception, and this is not Pagan enough, there is a want of realisation of the antique spirit in it. From this we jump again to the world of modern realities in the shape of Mr. Brock's colossal statue of that great Anglo-Indian soldier John Nicholson, whose character and personality so impressed the native Indians that they regarded him and worshipped him as a god. This is the kind of thing that Mr. Brock does better than any one else. Nicholson is represented as holding his sword in one hand and the sheath with the other; the head is fine but perhaps rather too gentle in expression for one who was such a determined fighter; and the portraits which we know of Nicholson represent him with a beard fuller and squarer in cut than is shown here. As a memorial statue, however, it is a fine work; it is to be set up in bronze in the Nicholson Square at Delhi, in the storming of which city Nicholson lost his life. He was one of the greatest of England's sons, and well merited all that English art can do to commemorate him.

It seems a pity that sculpture at the Academy cannot be classified in its arrangement more, in regard to the nature of the subject. A personal memorial like that to Nicholson belongs so completely to another province from that of ideal sculpture that one can hardly judge the two types in the same category or on the same principles. Mr. Walker's statuette of Dante is a fine realisation of the sombre and thoughtful aspect which one can imagine proper to the author of the Divine Comedy; an illustration of it will be found in one of our plates. Mr. Lucchesi, in his small figure of Cupid under the title "The Surrender," reverts to the use of sculpture to point a moral; Cupid sits on a pile of moneybags, and breaks his bow as of no use in a domain ruled by Plutus; the expression given to the face is characteristic and almost pathetic.

On the remaining side of the Octagon are two or three works which represent the use of sculpture to express a poetic conception; its highest use, when combined with decorative beauty of form. Of one of these, Mr. Toft's "The Cup of Immortality," we give an illustration. This is a beautiful and imaginative work: a large panel in low relief, where a wizard-like venerable figure in long robes brings to a kneeling nude girl the cup of immortality. It is based, we believe, on an ancient Persian legend. In the panel formed beneath the architectural framework is the inscription "In his hand he bore a cup containing a crystal liquor which sparkled and foamed as if it would overleap its narrow bound." That is all the explanation of the subject, which is thus left vague, so that each may interpret the thought his own way; the best treatment of a poetic thought in sculpture, where too much definition of the subject is apt to become prosaic. This is one of the best works which Mr. Toft has produced. Near this is a fine bronze group, by Mr. J. H. M. Furse, of a winged angel with a child on its knee, the wings overshadowing the group; it is a memorial, probably to a child, which is to be set up in Hampstead churchyard. One is glad to think of anything so thoughtful and refined being placed in a London churchyard, where the monuments do not generally represent a high type of art. Mr. Mullins' "Isaac and Esau" we have already referred to; and on the other side of it is Mr. Fehr's bronze of "Isabella and the Pot of Basil," a new reading of the well-worn subject, and welcome as such. He has represented Isabella as a nude figure seated beside the flower-pot and bending her head over it; a treatment of course far more in accordance with the spirit of sculpture than a costumed figure, and yet not out of keeping with the poem, since Isabella's grief was indulged necessarily in solitude. The "pot" is finely treated, with a decorative surface modelling in which tragic masks are interwoven. Altogether a fine and interesting work.

Among the works which occupy the centre of the floor in the Lecture-room we find very various types of sculpture illustrated; in fact almost each work comes under a different category. Decorative and symbolical sculpture is first illustrated in Mr. Lynn Jenkins's "The Spirit of British Maritime Commerce," a group in bronze and marble forming part of a decorative scheme for the staircase at Lloyd's, and of which we give an illustration. It represents, as will be seen, the conventional ship, with attendant sea-nymphs, and a figure which may symbolise Commerce seated in the stern. The nude parts of this figure are in marble, the rest of the work bronze. It is difficult to judge of such a work apart from the whole scheme; but as a piece of purely decorative work on a small scale it seems very successful. Opposite to this we have a very fine example of portrait sculpture, in Mr. Brock's dignified figure of the late Chief Justice, seated and robed, and with the head carved in that broad manner, not weakened by over-finish, in which Mr. Brock excels. On the north side of the floor poetic sculpture is represented by Mr. Harold Parker's impassioned nude figure of Ariadne, "kneeling on her sad

knee," as Byron said in his audacious rhyme, her hands flung forward in an action of despair. This is a pathetic and a rather new and original rendering of an old subject. We give an illustration of it on a small scale; it is life-size, and on the same scale therefore as "The Sandal" and "The Dancer" on the same plate, but the arrangement on the plate (the only one possible for getting all the subjects in) compelled its reduction. On each side of this are two works of the class which express simple life without emotion; Mr. A. J. Leslie's "Narcissus" and Mr. Mackennal's "Dancer." The former is a failure because it is not specially beautiful, as any representation of Narcissus ought to be, seeing that the whole legend turns upon his beauty. Mr. Mackennal's "Dancer," of which we give an illustration, is a fine and graceful figure, though in respect of the title it seems a little deficient in the sense of movement; possibly the sculptor was afraid of spoiling the repose of the figure if he put more action into it. It is a work representing some of the best traditions of sculpture, but its author has produced things which interested us more. Opposite to these two last-named figures of simple life, on the other side of the room, are two dealing with ideas of remorse and misery, the "Cain" of Mr. B. Clemens and the "Marsyas Defeated" of Mr. Basil Gotto. This dramatic placing and contrasting of the works according to the character of their subject is no doubt intentional, and is certainly effective. "Marsyas" does not harrow our feelings much; he has let his pipes fall, but otherwise he takes his defeat and its consequences very calmly. "Cain," flying from the avenger of blood, as it were, is a far more dramatic figure, in which action and remorseful expression are carried as far as they well can be in sculpture without disturbing its artistic balance. What is the figure executed in? Apparently in some material which shows red patches at intervals, as if of blood stains; or is it coloured up intentionally? In either case, the effect is disagreeable, and we could well have spared it. Between these two works comes the model for a monument to commemorate the King's Liverpool Regiment, by Mr. Goscombe John, which is as much architectural as sculptural; a stele with a figure on the top, and two curved wing-walls with figures at each end, represent a kind of scheme which is not new, but is suitable and effective.

Of the numerous works arranged round the walls the most important are Mr. Frampton's "St. George" and Mr. Derwent Wood's "Love and Life: Sacred and Profane," a large bas relief. The St. George, in gilt bronze, is an armoured half-size figure standing over the dead dragon, and gazing on it with an expression very different, at all events, from the conventional type of the victorious saint; the group forms part of a war memorial to be erected at Radley College. Mr. Derwent Wood's large panel, in very low relief, is a work representing both sculptural beauty and a good deal of thought; a warrior and a girl stand grouped together in the centre, each stretching one hand to one of the side groups; those representing Profane Love or Pagan Love, with their attendant Cupid, pass off to the left, the group representing Sacred Love passes off to the right. These two groups are finely contrasted; their precise relation to the centre group is not very clear—it seems rather like the old idea of the parting of the ways; but then, in this case as in another already referred to, we do not really want too much definition; it is better for the artist to leave us a little fancy-free.

Of other works there are many of more or less interest, to all of which it is impossible to refer. We must express our intense dislike to the grotesque work exhibited by Mr. Gilbert, under the title "The Mother of the Ninth Symphony," in which there seems to be an intention to represent in coloured materials the head of an old woman with a likeness to Beethoven. This is called "Study of a head for a contemplated monumental homage to Beethoven" (!) That is not the way to pay homage to Beethoven, and it makes one rather angry to find his great name associated with so ugly and absurd a production. Mr. Lynn Jenkins exhibits a female head in marble which does not exactly answer to the main title, "The Triumph of Youth," for there is no look of "triumph" in it, but does answer to Mr. Hewlett's couplet quoted with it—

"For body's beauty is thy soul's thin veil,
Wherethro' soul's beauty shineth like a jewel."

To say that a sculptor has really conveyed, in a marble bust, the idea suggested in those lines, of the soul expressed in and shining through the outward bodily semblance, is to say a great deal for his powers of spiritual expression in sculpture. We can just mention a few other things which are of special interest. Mr. Anning Bell's low-relief medallion, "The Fortune-teller," with its wrinkled drapery, looks as if it would be more effective if treated with the colour which he is fond of applying to plaster relief. Mr. Lantéri's bronze portrait statuette of "Miss Grant" is a very good example of ease and grace of attitude in a portrait statuette. Among the other small works is a charming little child's head, "Gracie," in silver relief, by Mr. Drury; Signor Canonica's busts of the King and Queen, which have that strongly marked individuality that characterises all this sculptor's works—perhaps rather too much; and Mr. Sydney Cowell's large circular medallion, "The dream spirit," where a figure in low relief is encircled by wings proceeding from a head at the top, is an interesting fancy. A small bronze group by Miss Florence Steele, in which a man, a winged woman, and a serpent, are combined, should not be passed over; no explanation is given, it is a little poem in bronze to which every one can give his own meaning. Two larger works of quasi-architectural interest are Mr. Hodge's bas-relief of "Science and Art," apparently for a panel in a building, and Mr. Reynolds-Stephens's "Reredos," with a figure of Christ in the centre. The former is purely sculptor's work, depending solely on form and design; the latter is a piece of decorative work in which various materials are combined. It is effective and original, but with perhaps rather too much of an obvious effort to be so, and the decorative tree forms in the side panels are rather too naturalistic in some of their details.

One cannot help remarking how far larger is the proportion of things that are really good and interesting in the sculpture exhibits than in the paintings. Of course the space given to sculpture is much smaller, far too small in fact; but one result is that a higher general standard of work is maintained. Perhaps if the Academy reduced also the number of pictures they would consent to hang, the result would be an improvement in the pictorial standard of the annual exhibitions.

NOTES.

'Architects' Certificates. THE case of Robins *v.* Goddard, tried by Mr. Justice Farwell last week, exemplifies once again the finality of architects' certificates. The final certificate in this instance had stated that a sum might be paid to the builder "in full settlement of all claims for extras and work under contract dated," etc. The house-owner refused to pay the sum stated in this final certificate on various grounds, such as that the work and materials were defective, imperfect, etc., and he relied on the thirtieth clause of the contract: "No certificate of the architect shall be considered conclusive evidence as to the sufficiency of any work or materials to which it relates, nor shall it relieve the contractor from his liability to make good all defects as provided by the agreement." If this clause were read by itself the house-owner would seem to have been in the right, but in the seventeenth clause the architect was given full powers as to defects and faults in the work, and the contractor was to make them good, "unless the architect shall decide that he ought to be paid for the same." Mr. Justice Farwell decided that looking to the contract as a whole the decision of the architect was final—in other words Clause 30 was merely intended to prevent interim certificates from having the effect of final certificates, and did not take away the absolute power intended to be given to the architect by previous provisions in the contract.

Water Supply for Domestic Purposes. THE case of the South-West Suburban Water Company *v.* St. Marylebone Union is one to be noted. The plaintiffs were a water company and the defendants the owners and occupiers of premises used as schools for the education of children from the workhouse. For some time by agreement water had been supplied to the defendants by meter through a communication pipe with a 3-in. bore, and the water was used—1, for garden and greenhouse; 2, for automatic flush cisterns; 3, continuous supply to urinals; 4, for boilers for driving machinery and pumping water; 5, for use in the laundries; 6, for washing out a large swimming bath. The defendants resolved to apply for a supply of water for domestic purposes only, at a charge based on the annual value of the premises, and as a condition to obtaining this supply offered to discontinue the use for the swimming bath. The plaintiff company, however, required them first to substitute for the 3-in. pipe a ½ in. service pipe, and to make other alterations to connect the supply with

domestic purposes exclusive of the uses for other purposes. By section 12 of the Waterworks Clauses Act 1863, a supply of water for domestic purposes is not to include a supply for any "trade, manufacture, or business," and as was decided recently in a case commented on by us (Barnard Castle Urban District Council *v.* Wilson) a school is a "business." In the present case, however (as in the decision of the Court of Appeal in that case), it has been held that the fact that a business is carried on upon the premises does not permit water being used on the premises for domestic purposes, and therefore in each case there must be a question of fact to be decided as to the exact use the water is being put to. The learned judge in this case decided that the water company under the Acts and orders made under them was justified in insisting on a pipe or pipes with the bore for domestic purposes being substituted for the 3-in. pipe, and he went through the various uses to which the water was being put, and laid down which were and which were not "domestic purposes." As the Act of 1863 by section 12 excludes a supply for watering gardens, the amounts required by the cisterns and urinals he held to be in excess of the quantity allowed by the company's regulations, which were reasonable. As regards the boilers, the heating of the building was held to be a "domestic purpose," but not the driving of pumps or the machinery in the laundry, although the supply of hot water for laundry purposes would fall within that definition. The swimming bath was not in dispute, as it was decided in the Barnard case that if it was supplied for the business of the school it was not a "domestic purpose." On these cases the position of the owner of a swimming bath in his own private house remains uncertain, although the Court of Appeal in the Barnard case seem inclined to think that the water would be claimed as for a domestic purpose.

The Crystal Palace Jubilee.

THE fiftieth anniversary of the opening of the Crystal Palace is an event of considerable interest. There are only a minority among us now who can dimly remember the first erected glass palace in Hyde Park for the 1851 exhibition, and the then novel spectacle of the trees growing under the transept roof, with that exceedingly characteristic specimen of Early Victorian art, the "crystal fountain" in the centre, and Hiram Powers's "Greek Slave," which had a tabernacle to itself opposite the central entrance of the exhibition, and was then popularly supposed to represent the highest point of modern sculpture. The decree that the building should be utilised, after the exhibition, to form part of the larger erection at Sydenham, was a fortunate one. It has not only provided for middle-class London a very attractive holiday place; but the fine series of reproductions of ancient statues and ancient architecture have no little educational value; and in respect of its great series of Saturday afternoon concerts, and its triennial Handel Festivals (first started to commemorate the centenary of Handel's death), the Crystal Palace has been to many persons the source of some of the highest enjoyment of their lives. On this account it was very suitable that an important part of the celebration should consist of a performance of Mendelssohn's "Hymn of Praise" with a chorus and band on the Handel Festival scale; nothing could be more suitable for a festival occasion than that bright and jubilant piece of sacred music, of which a very fine performance was given. A curiosity in the programme book was the reprint of the article written on the occasion of the opening of the Palace by Queen Victoria, with its elaborate directions to the carriage-owners and cab-drivers as to the best route to the then unknown site. The evening concluded with a display of fireworks; and these also have been an element of beauty, in connexion with the Palace, which is not to be despised, and in which old and young alike can find pleasure.

London County Council Schools.

THE annual exhibition of work executed in the London County Council Schools was opened on Monday at the Medical Examination Hall, Victoria Embankment. The year's work shows very little difference to that of last year. The work done in the infants' department is still the most interesting both in method and results; in the more advanced sections much still remains to be hoped for in the method of teaching and in the models set before the student. Thus, in Still Life the unfortunate pupils at one school are set down to make careful water-colour drawings of an American radiator, a modern kitchen range, and a turned wood chair of the present office furniture pattern. In the woodwork section the more elaborate and ornate the work done the worse it gets; after an apprenticeship at mortising, tenoning, and dovetailing, and the interpenetration of solids,—some of the most difficult operations in joinery,—the student is allowed to let his (we hope) unaided imagination run free in the production of corner cupboards, tea trays and picture frames of an ugliness devoid of either the grotesque or of any constructional interest. Frets, mouldings, and inlay are crowded into the same object. It seems a pity that the London County Council should not bring better influence to bear on the work of the pupils in its schools. These handicrafts are a source of genuine pleasure and education to the students, and proper guidance at the impressionable age would help to form good taste in design, and show its relation to sound workmanship. Very valuable is the work done in teaching the blind and deaf how to work with their hands, a great variety of whose work is shown. Perhaps the classes in modelling and design from nature show the most talent.

Cleveland-row and St. James's-street.

ALL the buildings—the gymnasium of the London Fencing Club at No. 7 excepted—in Cleveland-row, opposite St. James's Palace, together with Russell-court and the premises at the corner, in St. James's-street, have recently been pulled down; the site is appropriated for, we are informed, a block of residential flats. Cleveland-row commemorated by name the mansion, formerly called Berkshire House, which was bought by King Charles II. for Barbara, Duchess of Cleveland, and having been since subdivided and greatly altered, was rebuilt by Sir Charles Barry as Bridgewater House in 1847-50. Cleveland-row has had many celebrated residents, including Philip, Earl of Chesterfield; George Selwyn, who passed the close of his life there; and, at No. 5, Theodore Hook, who removed thither from Putney in 1825, and went thence in 1831 to Egmont Villa at Fulham. The house, latterly a post-office, at the corner of St. James's-street, and Palace Chambers, had been built on the site of the St. James's coffee house, a noted haunt of the Whigs and the "fountain-head" of the *Spectator*; it was pulled down in 1806.

Pall Mall East, and Cockspur-street.

THE demolition has been begun of the large house, having a recess with four disengaged columns on the principal floor, which forms the apex, towards the west, of the block of buildings situated between Pall Mall East and Cockspur-street. That block, which includes on the east side the Union Club-house and the Royal College of Physicians, was erected as part of the improvements carried out in the locality by Nash in pursuance of the Act of 1813 (53 Geo. III., cap. 121). The house we mention, consisting of No. 19, Pall Mall East and No. 1, Cockspur-street, was built after the designs of Henry Rhodes, who, during some years before his retirement in 1840, was joint architect and surveyor, with Thomas Chawner, to the Commissioners of Woods, Forests, Land Revenues, and Public Buildings. The premises were formerly occupied as their glass factory by Hancock and Rixon, and have since served as the Universal Stock Exchange. We understand that the new buildings will be erected for a large shipping trust, after plans and designs by Mr. Tanner.

Views on Egypt.

MR. TALBOT KELLY, who has made a special study of Egyptian landscape, has a fine exhibition of his recent water-colours in one of the rooms of the Fine Art Society. These are drawings which not only give the impression of being topographically accurate, but are works of artistic power. He succeeds in conveying in such drawings as "The Sun-blistered Desert" (1), "A Bedouin Hawking Party" (7), and "A Desert Upland" (55), a vivid impression of the effect of sun-glare on surfaces of nearly bare hot sand. The drawing called "A Wayside Sketch" (52) shows a kind of lane which could probably be found nowhere in the world but in Egypt—a ridge of sand with ragged vegetation on each side of it. In the scene on the Nile, "Down the stream drowsily" (25), the sand cliffs on the other side of the river are admirably painted. The view of the well-known Memnon figures (23) gives one a new idea of their effect as contrasted with the patches of very bright green vegetation around their base. Mr. Kelly paints architectural detail also with most conscientious care, as in his "Interior of the Mosque el Ghury" (29), which as an architectural drawing could not be better. "Philæ, Before the Completion of the Dam" (57) has a melancholy interest, and a curious bit of

accidental architectural composition is shown in the small drawing of "Guergeh" (66).

Water-colours by Mr. H. S. Tuke.

MR. H. S. TUKE, most familiar to us as an oil-painter hitherto, and especially as the painter of nude figures in sunlight, has recently been elected a member of the Society of Painters in Water-Colours, and exhibits at Messrs. Dowdeswell's Gallery a collection of water-colours "Along the Italian Riviera," which are totally different from any of his previous work that we have been acquainted with. These are almost entirely landscapes or shipping sketches, slight in execution but in a true water-colour style, and show a full appreciation of the effects of colour to be found both in the landscape and in the shipping of the Riviera. The Genoese evidently delight in lavishing masses of bright colour on the exterior of their ships, and Mr. Tuke turns this taste to great account in his bright sketches of "Veterans" (10); "Green and Gold" (15); "Evening, Genoa" (28); and "'Luigi,' of Genoa" (46), showing the stern of a ship painted in white and bright blue. Landscape effects too are not wanting; "Roquebrune from the Mentone Road" (21); "Cervo, a Ligurian Rock Village" (23), a most curious bit of indigenous architecture; "Porto Fino" (34), with its sunlit white and yellow houses reflected in the calm sea; and others. The little sketch of "Pisa" (39) is an excellent though slight rendering of an architectural group. To find a painter whom we have long admired coming out so successfully in an entirely new class of work is an interesting artistic event.

Mr. Alexander Fisher's Work.

AT the Dowdeswell galleries also is a collection of important decorative work in gold, silver, bronze, and enamel, by Mr. Alexander Fisher. These include two cases of jewellery and two of decorative caskets and other work, besides larger objects which are arranged round the room. A great deal of the jewellery is charming in fancy; and among the silver caskets are some which show beautiful artistic quality in the combination of *repoussé* design or panels of richly-coloured enamel with the plain spaces of untouched silver. The quality of colour in some of these enamel subjects on silver is peculiarly fine. Among the objects round the room are a very fine chalice, with silver base and stem and an ivory bowl with a flat carved design worked on it; a salt-cellar in plaster silvered (a model only) showing a vigorous design of Neptune and his horses; and a very clever and effective bracket for electric light, representing "Selene, the Moon Goddess"; a circular bronze plate with high relief sculpture is nearly encircled by a transparent moon-shaped crescent of horn, through which or within which the light is to shine. There is a little too much tendency to the weak curves of the *Art Nouveau* persuasion occasionally, as in some of the jewellery and in the electric bracket numbered 73; and the two church candlesticks would be better if their stems were treated with some more decisive design in fluting, instead of being merely reeded in a kind of careless and accidental manner. But, with some eccentricities, this is a collection full of artistic interest and talent.

Society Touting by Architects.

THE following remarkable advertisement has been appearing in the daily papers:—

"WEST-END ARCHITECT desires the CO-OPERATION of influential Society man or woman who can privately INTRODUCE ARCHITECTURAL or DECORATIVE WORK. £1,000 a year can be added to income without any trouble and whilst attending to ordinary social engagements. Best class of work only desired. Bankers' and clients' references. Address in strict confidence 'Architect,'" etc., etc.

This is a very disagreeable sign of the times in every sense. It is known (or at least confidently asserted by those who ought to know) that ladies, even young ladies, who are more fashionable than rich, are not above adding to their means by acting as unacknowledged Society touts for dressmakers and others—recommending this or that firm in conversation with their friends, and so on. So far, the discredit attaches to the Society side of the matter; one cannot be surprised that tradespeople are willing to extend their business in that way, if they find ladies sufficiently devoid of self-respect to engage in it. But it is a new thing to find it proposed in connexion with what ought to be a liberal profession; and one can only regret that, as far as we know, the first open effort of this kind should have come from a member, though probably not a very illustrious one, of the architectural profession. One wonders whether this gentleman is one of the architects who wish to be registered.

THE INSTITUTE GOLD MEDAL, 1904.

M. AUGUSTE CHOISY, the distinguished French writer on architecture, to whom the royal gold medal has been awarded this year by the Institute, was a student in the École Polytechnique in Paris, and, passing out very high in the examination list of that school, he elected to enter the service of the Ponts et Chaussées, which holds a higher rank than that of the Engineers or Artillery. He had already at an early date employed his leisure time in archæological research, devoting his attention specially to the methods of construction employed in ancient times, a study for which his career in the École Polytechnique peculiarly fitted him: and some of his essays communicated to the French Academy received the warm approval of its members. One of the results of these studies was his appointment as "professeur-adjoint" in the History of Architecture of the École Polytechnique in collaboration with M. de Dartein, the senior professor.

The earliest mention recorded in print of his researches will be found in Viollet-le-Duc's "Dictionnaire Raisonné de l'Architecture Française," Vol. IX., published in 1868, under the article "Voûte." On page 477 is entered the following note, which we quote in full, as it shows the line of study which M. Choisy had selected for investigation:—

"Un jeune ingenieur français, M. Choisy, va publier prochainement un travail très complet sur la structure des voûtes Romaines, d'après les monuments. Le recueil que nous avons eu entre les mains, donne au détail les divers procédés employés par ces grands constructeurs, et demontre, de la manière la plus évidente, que l'économie dans la dépense était une de leurs principales préoccupations. Nous engageons les architectes qui veulent sérieusement connaitre les procédés employés par les Romains dans les constructions à recourir aux travaux de M. Choisy sur cette matière."

We gather from this note that M. Choisy's researches became known to Viollet-le-Duc, who, when writing his article on vaulting, recognised that the principles underlying the construction of the Gothic vault had already been followed in Roman work, with this exception, that in the latter style the supporting ribs were concealed in the vaulted mass, whilst in the former style they were not only made prominent features, but in their development evolved a new style. Already, in the fourth volume of the dictionary, published in 1859, under the article "Construction," page 2, Viollet-le-Duc had shown that he was acquainted generally with some of the principles of the Roman vault, but M. Choisy's interpretation and the minute and detailed observations which he had made enabled him to carry the subject much further in 1868 than he had been able to do in 1859, although it went outside the sphere of his dictionary. It is quite certain that there was no one to whom M. Choisy's researches would appeal more strongly than to Viollet-le-Duc, with his powerful reasoning faculties. M. Choisy's work, "L'Art de Bâtir chez les Romains," was, however, not published till five years later, viz., in 1873, so that it would seem that his professional duties on the one hand, and his desire on the other to make his researches as complete as possible, prevented an earlier issue.

The economy in expense which Viollet-le-Duc in his note says was one of the Roman masons principal preoccupations referred mainly to that of the centring employed for these immense vaults, and this had only been recognised to a certain extent by Viollet-le-Duc in 1859, if we may judge by his statement, page 2, Vol. IV. M. Choisy's notes showed that the brick arches were not continuous, but, as shown on page 466, Vol. IX., in Viollet-le-Duc's drawing, Fig. 1, were erected over special centres only and held together at intervals by bands of brick on edge, the bricks in question measuring about 1 ft. 6 in. square and 2 in. thick. M. Choisy's second discovery, however, was even more important, for he showed that in the erection of these great vaults the first task undertaken was the construction of what was virtually only a shell consisting of two courses of Roman bricks laid in cement and breaking bond, which were laid direct on the boards carried by the centres. It was on the top of this shell that the brick arches and ties were built, the value of this shell becoming apparent in the next process, when the spaces between the ribs and ties were filled in with pozzolana concrete laid in horizontal beds. The shell, together with the centring, was sufficiently strong, on account of its arched form, to bear the superincumbent weight, and the trouble which might have been caused by the twisting of the boards if the wet concrete had been laid on them was disposed of by the employment of the shell. Viollet-le-Duc's drawing only shows one layer of bricks, but M. Choisy, in his work, "L'Art de Bâtir chez les Romains," proves that they were invariably in two thicknesses, with considerable variety in their method of breaking joint. M. Choisy's researches in this one constructional feature are of great interest and value, and so convincing in their proofs that they have been universally accepted. The economy of centring is also shown in the diagonal ribs of the Palatine Palace vaults and in those of the arch of Janus in the Forum Boarium and of the Thermæ of Diocletian. In each case one of the diagonal ribs was built first and the centring shifted to build the second, proved by its butting up against the first. These questions, however, constitute only a small portion of the information given respecting the construction of Roman buildings.

M. Choisy's next research would appear to have been in that of Byzantine construction, and in his work, "L'Art de Bâtir chez les Byzantins," published ten years later, he, applying the same principle of observation, worked out the schemes employed in the construction of the vaults throughout Greece, Asia Minor, Constantinople, and Syria, a subject which had never been treated before, and his book to this day is still the only authority. His studies in Greece led him to an inquiry into the interpretation of various inscriptions found there on marble slabs, for, just as the Egyptians wrote their records and accounts on papyri and the Assyrians on terra-cotta tablets, the Greeks inscribed theirs on marble. In 1882 a marble slab was discovered near Athens on which was written in *ninety-seven lines of text the complete specification for the building of the Arsenal at the Piræus*. In his "Études sur l'Architecture Grecque," published in 1883-4,

M. Choisy translated this inscription and illustrated its reading by a conjectural restoration of this arsenal, which not only followed the clear description given, but constituted a lesson in the methods employed by the Greeks in the construction of their timber roofs; a lesson all the more valuable because, on account of their ephemeral character, no examples have come down to us. In the same work also he published an illustration of the construction of the roof of the long wall leading to Athens, also derived from an inscribed slab. Another inscription related to the work required for the completion of the Erectheion, which for various reasons had been delayed, and here he was able to restore conjecturally the marble roof of that temple and to describe portions of its architectural features which were comparatively unknown.

The lectures which for many years M. Choisy had been delivering at the Ecole Polytechnique probably laid the foundation for his next work, "A History of Architecture," which was published in 1898-99. This work, though confined to two modest Imperial octavo volumes, contains the pick of what might easily be extended to a dozen or more, as it commences with Egyptian architecture, passes in review all subsequent styles, including Indian and Chinese, and terminates with the Renaissance to the end of the XVIIIth century. There is, unfortunately, no preface, which is the godsend for reviewers, and probably on that account it has been so far insufficiently reviewed here in England. The historical and chronological portions are very brief, M. Choisy's object would seem to have centred more, firstly, in the systems of construction employed by different nations and in all times; secondly, in the constructive and decorative forms found in each style; and, lastly, the principal monuments. The chapters describing the various styles follow chronologically and, consequently, also the gradual developments, but M. Choisy seems to have felt that if he once commenced the usual historical account his book would have extended to many more volumes. He has made up for this deficiency, if it is one, by the drawings which he specially prepared for the work; and these drawings have this exceptional interest, that they represent clearly in the finest possible lines all the principles of the forms or features he is describing. In the series of about thirty drawings illustrating Romanesque architecture in France he conveys more information than is found sometimes in a folio volume. The drawing of Nôtre Dame du Port Clermont, Fig. 30, page 230, Vol. II., is not only extremely beautiful in its lines, but the isometrical view given represents plan, section, and perspective all in one illustration. M. Choisy's last work, published this year, goes back to the earliest style. In "L'Art de Bâtir chez les Egyptiens" he returns again to some of the theories put forward in his "History," but he develops them farther, and, among other subjects, his description of the method employed in the building of the Pyramids and of the immense temples at Thebes, with the clear proofs he gives at every step, is one of the most brilliant results of his inquiring mind. M. Choisy follows most worthily, therefore, in the wake of one of his predecessors, M. Viollet-le-Duc, who, in 1864, forty years ago, received the Royal Gold Medal "for his works tending to promote or facilitate the knowledge of architecture or the various branches of science connected therewith."

THE COURT THEATRE, SLOANE-SQUARE, CHELSEA.—Some extensive structural alterations will shortly be carried out for Mr. J. H. Leigh, of the Court Theatre, with the purpose of adapting it for new uses as the amateurs' theatre. The interior is to be redecorated and so rearranged that the floor of the auditorium may be readily appropriated in its entirety for stall seats, and the pit seats removed, and the front will be raised by an additional story; Mr. C. E. Lancaster Parkinson is appointed as architect for the new works. The Court Theatre was built for Mr. John Clayton after designs by Mr. Walter Emden and Mr. W. R. Crewe, upon Lord Cadogan's estate, and opened on September 24, 1888, by Mrs. John Wood and Mr. Arthur Chudleigh. The former theatre that stood nearly opposite on the other side of the road was taken down in 1887 for some improvements in that part of Sloane-square on the Cadogan property. The house had been a chapel, converted (by Mr. Emden) into a theatre, and was opened by the late Miss Litton on January 25, 1871. The present house was planned to accommodate an audience of 800 persons.

THE ARCHITECTURAL ASSOCIATION SCHOOL OF DESIGN.

THE Exhibition of School of Design and prize drawings at Tufton-street shows much work of considerable talent, and is gratifying evidence of the work of the past year. The character of some of the work, both in drawing and design, shows painstaking and conscientious study, with a certain restraint and dignity which are to be commended. *L'Art Nouveau*, which was so seductive to the eye of the young student, has not prevailed, and its influence is only noticeable in a more or less inoffensive way, while the best traditions of architectural design are more truthfully maintained. There is yet much to be wished for in this direction, and the more students realise the value of Academic restraint in their early study, the more will our architecture benefit. The tricks of paper design too often blind them to the true appreciation of design in execution. The little prettinesses of the pencil and brush are so many traps for the innocent and well-meaning youth, and ought to be discouraged by all means possible.

The A.A. Travelling Studentship is won by Mr. George Drysdale, with a very creditable set of drawings. The pencil sketches of Gloucester Cathedral and St. Michael's Church, Gloucester, are good free drawings, and useful studies. The measured drawings of the Booth Porch, Hereford Cathedral, with full size details, have been carefully worked out. In design he shows considerable ability in planning, as seen in the plan of the Solicitor's House, but in the elevation misses his mark by attempting a combination of Elizabethan and Georgian details, and a meaningless use of stone band courses.

The Library for a County Town is planned on one story, and has the lending library badly placed, with very cramped indicator space, caused by the introduction of an octagonal domed reference room, the position of which is more suitable for the lending library. The elevation of the front is a charming bit of Renaissance. "An Inexpensive Church," in a corner site, is one of the subjects shown, and is not successfully planned. The main entrance is placed at the side, with the morning chapel in the south-west angle. A wide nave leads to a featureless chancel, with the choir stalls unhappily placed. Here again the elevation is spoiled by the use of stone bands.

The second prize is gained by Mr. Alick Horswell. His sketches of Muchelney Priory and Thaxtead Church are nice sketches, but much too slight. The measured drawings of The Orangery and North Porch of Thaxtead Church are weak. The design for an inexpensive Church is a most creditable effort. The plan is cleverly arranged, more for architectural effect than economy of space. The main entrance is in the east end, and the morning chapel and chancel are grouped together. The design is a charming piece of plain gothic work in stock brick and stone, with all the spirit of true church design, and well shown by a clever set of drawings. The Public Library is not so successful, although the same appreciation of harmony and proportion is shown. Altogether the work of this student gives much promise, and it seems unfortunate that he has only secured second place in the Advanced Class of Design.

The first prize in Advanced Design is won by Mr. Maurice E. Webb, who shows a good plan for the Library, utilising the space in a simple way, and providing for easy supervision. His design for a County Bank is also a businesslike plan, but is very weak in elevation. The design for a Police Station is a creditable piece of work, and is in all probability responsible for his position as winner of the prize.

The Architectural Union Prize is won by Mr. Cecil R. Pinsent, with measured drawings of the Hall of Eltham Palace, showing details of the roof, but we should have liked to see more explanation of the construction than is shown on the drawings.

The Association Medal is won by "Wee Macgregor," with a set of excellent drawings. The subject is a block of shops and flats. The ground floor plan is cut into simple sections for shops, with a main staircase to the flats in the centre. Only two flats are provided on each floor, which do not utilise the site to the greatest advantage, but which nevertheless show good planning. The elevations are a bold and scholarly treatment of Renaissance, and show conscientious study of the style. This design is well ahead of the others sent in. "Ad Hoc" gets into trouble with a very complicated ground plan, but triumphs commercially by providing four flats on each floor above. His want of knowledge of detail mars an otherwise well-conceived front elevation. "Cortez" cuts his shop floor into sections of various sizes, and gets a workable and commodious plan to his flats, but he must try and forget the class of design in which he is now wallowing. "Ibex" shows good drawings and divides his shop floor into shallow compartments, which is unwise from a commercial standpoint. The front elevation is unscholarly but has promise, and shows appreciation of mass and proportion.

The Banister Fletcher Prize is won by Mr. F. J. Watson Hart, with measured drawings of Customs House, King's Lynn, Eltham Palace Hall, and Gateway to Queen's College, Oxford.

In the Elementary Class of Design Mr. D. G. Round wins first place, and shows some promising work well drawn. His wooden porch is rather too elaborate in detail, and the stone porch is weak in proportion, and lacks the quality of the design. Both are altogether too ambitious. The block of three semi-detached cottages in stone and slate, shows careful thought and good feeling for simple domestic work. The second prize is won by Mr. Cyril K. Roe. His three cottages are charming, and the wooden porch is also quiet and refined. The stone porch is somewhat too elaborate, and his clock tower is very much behind his other work.

The elementary design generally is a most interesting exhibition, and there is much real talent in evidence, hidden behind the "up-to-date" influence which is so detrimental to the progress of Architectural Education.

EXCAVATIONS AT SILCHESTER, HANTS.

NOTWITHSTANDING the wet season of last year, good progress has been made in the further excavation of the interesting Roman town at Silchester. An exhibition is now being held at the rooms of the Society of Antiquaries, Burlington House, and will remain open until June 25. Architecturally, the results of the work of the past twelvemonth have been more than usually interesting, and, in addition to the foundations of several houses, the plan of an important building, thought to be the principal baths of the Roman town, has been exposed, and, for the benefit of those able to visit the site, will remain open until the autumn. The building, which measures "about 145 ft. from north to south, and nearly 100 ft. from east to west," includes (we quote from the Report) "all the usual parts of a Roman bathing establishment, which were arranged much on the same system as a modern Turkish bath." The approach from the street on the north side was through a courtyard or cloister, and this will be thoroughly examined during the present season. The building has evidently undergone considerable alterations from time to time, and a series of very interesting plans, showing as far as possible how these changes may have been made, has been prepared by Mr. W. H. St. John Hope, and forms one of the chief architectural points of interest in the exhibition.

The fragments of architectural work include a small altar, about 2 ft. in height, caps and bases of columns, and portions of a Purbeck marble basin, which, when perfect, appears to have been about 5 ft. in diameter. Portions of flues are shown with openings at the sides, and a number of T-shaped irons, which held them together; also a number of paving bricks, forming a herring-bone pattern, and measuring 6 in. in length, 3 in. in breadth, and 2 in. in thickness.

A large number of smaller objects were found, including a pair of gold earrings, a silver ring, a brooch, circular in form with delicate ornament, and a large quantity of bone hairpins; but the "pits" found during 1903 were not numerous, and the wet season prevented their being very thoroughly examined. Several plants have been identified from the seeds found in these pits and wells.

During the present season, with improved weather, it is hoped, among other things, to complete the excavation of the baths and their surroundings, and the results this year should, therefore, be specially interesting, and add considerably to the plan of the Roman town and its arrangement, which the work of fourteen successive seasons has been gradually completing.

THE BRITISH ASSOCIATION OF WATERWORKS ENGINEERS.

THE annual meeting of the British Association of Waterworks Engineers was opened in the Town Hall, Hull, on Thursday, June 9. Mr. F. J. Bancroft, B.Sc., Assoc.M.Inst.C.E., of Hull, President, was in the chair, and there was a large gathering of members, including Messrs. R. H. Swindlehurst, Bolton, the retiring President; W. Watts, Sheffield; W. G. Pearce, Richmond; E. Devonshire, London; H. Ashton Hill, Birmingham; R. S. Lloyd, London; G. H. Klopp, London; H. Preston, Grantham; P. H. Palmer, Hastings; W. Middleton, London; Dr. Thresh, London; J. H. Crowther, Wallasey; S. Richardson, Birkenhead; C. Sainty, Windsor; T. Molyneux, Stockport, and others.

The Mayor (Alderman W. Jarman) heartily welcomed the Association to Hull, and hoped their visit would be of advantage and profit to the members.

Mr. R. H. Swindlehurst, the retiring President, was thanked for his services to the Association.

President's Address.

The President then delivered his Presidential address. Having thanked the members for electing him to that position, he said the membership of the Association was now 300, an increase of fourteen on the year. He estimated their members were responsible for the management of waterworks of a total capital cost of 54 millions sterling, serving a population of 14 millions, with a daily supply of 440 million gallons. Whether it was for purposes of investigation into a new or additional water supply, or for inquiry into the adequacy of an existing one, the question always presented itself to the water engineer—What was, or would be the consumption per head? If the district be a rural one likely rapidly to become urban, provision must be made for the change in the character of the district as well as the augmented increase in the population. He was no believer in the small consumptions occasionally brought to their notice from towns and districts where the supplies were restricted at the recurrence of every dry season, and where the consumers had a continual dread of being without a full supply. The measure of the adequacy of a public water supply was the ability to furnish the maximum hour's demand in the day of greatest consumption. Improved sanitation was being forced throughout the country, and in the majority of cases this entailed an additional use of water. Water-closets, baths, and hot-water apparatus were now fitted in cottages, increased quantities of water were demanded for street watering and the automatic flushing of sewers and public conveniences, and in towns many trades spring up which were entirely dependent on an ample water supply. If, therefore, the maximum demand was unprovided for, a restricted supply had to be furnished at every recurrence of warm, dry weather, this being the very time when an abundant use of water was most essential for the health and convenience of the consumers. Consequently it was of paramount importance to recognise that a water undertaking should be fully capable of supplying the maximum hour's draught in the maximum day's consumption.

The Royal Commission on the Metropolitan Water Supply (1892) in their report adopted 35 gallons as a safe basis of calculation for the future daily requirements per head of the population of greater London. The maximum day's consumption being about 20 per cent. in excess of the average, he was of opinion that in large towns a capacity to furnish a maximum supply of 50 gallons per head per day would probably be the standard in the near future, and in small towns and rural districts an average of about 30 gallons, with a maximum of 36 gallons per day should be sought.

Speaking of the liability of well water to pollution, he said the moisture in the atmosphere commenced to take up impurities directly it was condensed, and in falling as rain it carried down organic matter and acids from the air. The rain, on reaching the ground, not only washed the surface of the land, but in passing through porous strata, the acids absorbed from the atmosphere gave it the power of taking up mineral matter in solution; at the same time the organic matter acquired at the surface was broken up by the process of natural filtration undergone by the water, and this tended to organic purity. According to the evidence of Dr. M. A. Adams in the Maidstone inquiry, the subsoil in its effect upon the water passing through it might be classified as follows:—(1) Top layer, or danger zone, containing putrefying organisms; (2) intermediate layer, or risky zone, containing nitrifying organisms; and (3) safe zone. Water to which matter from the first zone had gained access, or which had only passed through the first zone—i.e., surface water, must be considered dangerous. The second zone would yield a less dangerous, but not a safe, supply and the deep-seated water was quite safe. It was common knowledge that the level of the underground water rises and falls, and when the soil overlying the water-bearing stratum was clay a prolonged drought might easily produce dangerous conditions by causing the clay to lose cohesion and to become deeply fissured, and through these fissures foul matter from the surface might be washed down into the water-bearing stratum without undergoing any process of natural purification.

A study of the reports on the typhoid epidemics at Maidstone, King's Lynn, Worthing, and Beverley, showed conclusively that relations between water supplies and the surface of gardens or fields manured with human excreta and the proximity of leaky sewers or accumulations of filth were extremely dangerous, so that while deep-seated supplies were in no danger of pollution at the general gathering ground, there was potential and imminent danger from contiguous collections of filth. He should like to ask what was the most pressing need of water undertakings, the urgency of which was felt by all concerned in the management of waterworks, whether owned by corporations or companies? It was that they should have a department of the Local Government Board solely devoted to water supply, so that this subject and the many interests it involves might receive the attention which their importance deserved, nay, demanded. Let them consider for a moment the most important aspects of this question. The total area of England and Wales was about 37 million acres, and the population about 32½ millions, or on an average less than one person per acre. One inch of rain per annum on one acre of land, if stored, would yield an average of 62 gallons per day, so that the collection of the equivalent of 1 in. of rainfall over the entire area of England and Wales would be sufficient to afford a water supply to about double the present population. There were in England and Wales alone about 2½ million acres of uninhabited moorland and mountain, forming admirable gathering grounds and having the highest rainfall of any part of the country. Evidently there was ample surface and underground water for all our present and reasonable future demands if only it were protected from pollution, properly stored, justly allocated, and waste prevented.

With reference to pollution, the present system of control over undertakings for public water supplies was unsatisfactory and entirely inadequate. Every public water supply should be subject to an annual Government inspection, so that at least imminent danger of pollution might be detected and steps taken to remove the evil before any mischief resulted. At present filth might be deposited on waterworks land, sewers might be laid near wells, and sewage actually be poured into an absorbent water-bearing stratum without hindrance. They knew in recent years the disastrous and fatal results that followed the pollution of the public supplies at Beverley, Worthing, Maidstone, and King's Lynn. In his opinion such outbreaks would be entirely prevented if public supplies were periodically inspected by an independent authority, and the very existence of such an examination would make the authorities responsible for the local supplies more careful and alert. The areas over which local authorities and companies had control are now settled by purely parochial considerations, and had no regard to superficial or underground sources of supply. Thus they had some authorities possessed of powers giving them the exclusive right to the water from a watershed yielding a supply largely in excess of their present or any probable future requirements. On the other hand, they had large rural areas without any proper water supply on the boundaries of cities where an abundant supply existed. Such areas are a menace to the health of the cities they surround. Owing to the multiplicity of authorities and the difficulty of obtaining combined action, many such areas which might be effectively supplied by a joint comprehensive scheme remained dependent for water upon shallow, polluted wells. It should be the duty of the paramount authority to compel, if need be, the formation of joint water boards to deal with groups of towns and villages which, owing to their position and surroundings, could only be effectively dealt with by a joint scheme.

Again, with regard to underground water, much of the present rivalry and uncertainty would be obviated if there was an authority entrusted with the general welfare of the water supply of the country, taking wide views, and having and exercising power in these matters. Still further, there was the want of uniformity in the powers of water authorities, both in regard to the sources and supply of water and the regulation of its use by consumers.

There had been no general legislation relating to water supply since 1847, all the subsequent Acts being in the nature of amendment and supplement, and the need for revision to meet present requirements was shown, if in no other way, by the fact that in all recent Acts certain standard clauses had been regularly accepted, and were incorporated in the "Model Bill" issued by the Private Bill Office of the House of Commons. Surely the time was now ripe for a consolidation of all these enactments into a new general water Act. Further, he would call attention to the necessity for greater uniformity in our by-laws and regulations for preventing waste and misuse of water, and the desirability of all undertakings being called upon to supply annual returns as to levels of water, storage capacity, quantity supplied, etc., similar to those which the owners of gas undertakings were required to give to the Board of Trade. These matters had already been brought before the President of the Local Government Board by a deputation from the County Council's Association, the Sanitary Institute, the Underground Water Preservation Association, and their own Association. The fact that bodies with such divergent interests had been brought together for the purposes of concerted action, alone showed the pressing need of new legislation dealing comprehensively with the water supply of the country.

Mr. W. Matthews, Southampton, moved a vote of thanks to the President, which was seconded by Mr. Ashton Hall, Birmingham, and carried.

Messrs. A. H. Meysey-Thompson and H. Lupton presented a paper on the working cost of waterworks pumping-engines. They said that the number of types of engines at present in use was bewildering, and every type had its advocates. Although variations in the local conditions justified some diversity of type, two main lines of difference could be taken as covering waterworks practice generally. The first was the question of size, and the second was the relative positions of the engine and of the water to be pumped.

Concrete, etc., for Reservoir Embankments.

Mr. W. Watts, Sheffield, read a paper on concrete and puddle for reservoir embankments. He said it was natural that engineers should wish to know the results of practical tests before replacing clay puddle in works in which failure would involve such serious consequences. Puddle had long been regarded as the only reliable material under pressure, and in earthen embankments it was still pre-eminent, but in deep trenches concrete was far better as an impervious refilling, affording many advantages over clay, especially in bad ground; it was also more economical from a structural point of view. Cement concrete cost three times more than puddle bulk for bulk, but in embankment work it enabled the trench to be made narrower, and thus effected a saving in time, timbering, and pumping. An earthen dam was equally as enduring as one made of concrete, and in some districts had many advantages.

Mr. Earle, Hull, recommended standardisation in the grinding of cement.

Mr. White, Hull, considered that Mr. Watts had made out a very good case as to the advantage of using concrete in connexion with reservoir dams.

Mr. C. Smith said he had a preference for puddle in trenches where puddle of a strong tenacious nature could be got. Puddle was more elastic and more easily inspected.

Mr. Middleton, London, remarked that Mr. Watts had made out a very good case for concrete on the basis that they were to use a very much larger quantity of puddle than of concrete in the trench. He, however, did not see why these enormous thicknesses of puddle should be put in reservoir trenches.

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Administration and Control of Water Supply.

Mr. R. E. Middleton, M.Inst.C.E., London, read a paper on the administration and control of the nation's water supply. He said the authorities which it was desired to constitute should have jurisdiction (for purposes of the conservation of the water supply, preservation of fisheries, the prevention of pollution, and the disposal of sewage) over each of the great drainage areas into which the country was naturally divided, the water-sheds forming natural lines of separation best adapted for sanitary purposes. The author was also of opinion that these authorities should be responsible to a central Government department created *ad hoc*, by whom they would be required to put into force the existing laws for the prevention of pollution, and to whom they should be invited to submit suggestions for the amendment of the said laws, should such appear to them to be necessary or desirable. The proposed new authorities should be held responsible for the efficient supply of water and the general sanitation of their areas. They should be empowered to subdivide their districts in such manner as might best promote the objects in view, and should be entitled to enforce on each subdivision the provision of all the requirements referred to, and, on the failure of the sub-district to comply with its obligation in this respect, should be empowered to carry out the necessary works themselves, either by means of a private Act of Parliament or such other method as might be deemed sufficient to prevent injustice to the defaulting bodies. The proposed authorities should also have such powers of rating as the Government might think fit to grant.

Another important duty might be very properly placed upon the new authorities—viz., the collection, verification, and tabulation of rainfall and other meteorological statistics, the gaugings of rivers and streams, the measurement of varying water-levels in wells, the provision of statistics of water supplied, capacity of reservoirs, etc., and level of water in same, and other data bearing upon questions of public health. In this connexion it might be necessary that powers should be given to compel private owners to give facilities for obtaining the requisite information, but in any case water authorities and companies should be put under obligation to measure the quantity of water they receive and supply, and to afford all information with regard to reservoirs and wells.

The information thus obtained should be submitted periodically to the central department, by whom it should be tabulated and published within a reasonable time. It would, further, be of great value if maps could be prepared showing the location and extent of the underground drainage areas as well as those above ground. In a similar manner, statistics having reference to the treatment, purification, and disposal of sewage should be collected and published.

The author therefore submitted that the creation of such bodies as he had proposed, with authority to provide for the purification of the water supply where necessary, to protect all sources of water supply from pollution, to conserve fisheries, to consider all schemes either of water supply or of sewerage within their areas, to require—subject, of course, to appeal to a central department—the subdivision or amalgamation of areas of supply, and to report to the central authority on all schemes submitted to the two Houses of Parliament, would materially facilitate conservancy of the nation's water supply and its economical application to the best advantage of the population concerned, and there would remain but few instances where any community would be unable to obtain a water supply from its own drainage area.

Mr. Jones, Leyton, said that even some of the authorities which had been on the grasping principle of acquiring large water areas to the detriment of the rural districts and their less powerful neighbours, were beginning to see the necessity for some reform.

Mr. Percy Griffith, Secretary, said the paper practically represented the views of the Association. He assured those members who were associated with water companies that in this work they were in no way attacking the companies, but were seeking to advance the interests of water companies as well as of undertakings by local authorities.

Mr. Phelp thought that the author of the paper hardly appreciated the *vis inertiæ* which underlies public authorities in small districts.

Dr. Thresh pointed out that so far action by the Local Government Board had been in the direction of the prevention of pollution, and they might think that this proposed board would take a similarly limited view of its functions. He moved that it be an instruction to the Council of the Association to consider the constitution of the proposed rivers boards and the powers to be delegated to them, with the object of bringing the views of the Association to the knowledge of the President of the Local Government Board.

Mr. Middleton seconded the proposition, which was carried.

Pure and Wholesome Water and Pollution.

Dr. John C. Thresh, M.D., D.Sc., F.I.C., Lecturer on Public Health, London Hospital Medical College, read a paper on the practical definition of "Pure and Wholesome Water" and "Pollution." He said recent developments of chemical, bacteriological, and practical research as regarded the character of water supplies had brought the subject into great prominence, and it must be admitted that in the interests alike of water authorities and consumers the importance of the subject could not be over-rated. The public demanded to be supplied with what was defined in various Acts of Parliament as "pure or wholesome water"—that is, water free from pollution—and water engineers were anxious to meet their requirements. The misfortune was that there were such diversities of opinion as to what constituted a pure and wholesome water, that neither engineers nor the public knew what to believe. For example, they had experts of the highest eminence affirming that the water supplied to London was pure and wholesome, pointing to the practical experience of the last thirty years as evidence thereof, whilst other experts of equal eminence affirmed that the water was so dangerously polluted that those who used it run the risk of contracting disease, and even suggested the possibility of London being decimated by typhoid fever or cholera. The former based their opinion mainly on the evidence of experience, the latter on the assumption that certain theories were true. The majority of chemists agreed that the water was wholesome, but most bacteriologists said that the organisms it contained indicated dangerous pollution. In many other instances there was conflict of opinion between chemists and bacteriologists. In the circumstances, it was no wonder that both the public and engineers were bewildered. The reason of this state of affairs, no doubt, was that the subject was studied by many of these experts from one point of view only. The bacteriologist knew that certain organisms are chiefly found in sewage, and, therefore, if he found them in water he at once condemned it. The chemist knew that the purest water contained the merest trace of organic matter and of ammonia, whereas both were abundant in sewage. If, therefore, he found a slight excess of these in a water he condemned it as polluted, whereas if there was no such excess he passed it as pure.

Take first the water supply to London, or, rather, that portion of it which was derived from the rivers Thames and Lea. These rivers were undoubtedly polluted, and the water, as taken by the water companies, must be described as "polluted"; but before being delivered to the consumers it was submitted to various processes of sedimentation and filtration which removed at least a very large proportion of the bacteria and some little organic matter. If the filtration, etc., had removed such a proportion of the bacteria, and organisms characteristic of sewage could no longer be found in it (using reasonable quantities of water for the purpose of test), and the organic matter had been reduced to the amount found in admittedly "pure" waters, then the author would not hesitate to classify this filtered water as "pure." There was no doubt that on occasions the water was actually delivered in this condition, but usually the bacteria present, though few in number, include some of intestinal origin and characteristic of sewage. So long as these were very few, the author would have no hesitation in characterising the water as "wholesome," though not strictly "pure." In arriving at this conclusion the author was influenced by the fact that for very many years some six million people had been using this water without the slightest proof being adduced of its having prejudicially affected their health. Such an important fact should surely override any statement based on theory, and justify them in placing the London water in the "wholesome" class. For another example, take the large number of moorland and upland surface waters. If the moorland surfaces were not populated, the water might be delivered to the consumer in an unfiltered condition, in which case it would certainly contain low forms of vegetable and animal life in suspension. He did not regard such waters as "pure," though they were undoubtedly "wholesome," and if filtered so that these organisms were removed and delivered in a uniformly bright and well-filtered condition, then such waters should be classed with the "pure" waters. On the other hand, water derived from a watershed on which there were farms and houses, or stored in reservoirs to which even small quantities of sewage gained access, must be in an unfiltered condition more or less polluted, but if properly filtered might be classed among the "wholesome," if not among the "pure," waters. Where the gathering ground was moorland covered with peat deposits, the water would contain vegetable matter in solution. Such waters, if the soluble matter taken up from the peat was not excessive, might be classed as "wholesome," though it could scarcely be described as "pure." The action of these peaty waters on lead was well known, and a water which might be wholesome in the reservoirs or in the mains might become impure and unwholesome in passing through a length of lead pipe to supply a house. Deep wells usually yield "pure" water, but not infrequently the water contained salts of magnesium, calcium, etc., in objectionable quantities, and sometimes sea-water gained access to it, thus rendering it impure and possibly unwholesome. If sewage gained access to it in appreciable quantities, the water, of course, becomes "polluted."

THE ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS.

A WESTERN Counties district meeting of the Association of Municipal and County Engineers was held at Newport (Mon.) on Saturday, June 11. The members foregathered in the Council Chamber at the Town Hall, where they were received and welcomed by the Mayor (Col. Clifford Phillips).

Mr. W. Weaver, C.E., of Kensington, President, occupied the chair, and among those present were Messrs. W. Harpur (Cardiff), A. D. Greatorex (West Bromwich), J. S. Pickering (Cheltenham, Hon.Sec.), J. Haigh (Abergavenny) R. H. Hayes (Newport), J. P. James (Tenby), J. Holden (Llandaff), W. J. Davies (Nantyglo), W. J. Jones (Rhondda), W. L. Marks (Rhymney), J. Parker (Hereford), S. J. L. Vincent (Newbury), and F. W. Jones (Frome).

Newport and its Municipal Works.

Mr. R. H. Hayes, Borough Engineer, read a paper on Newport and its municipal works. He said modern Newport had really been created since the seventies. It was a parliamentary and county borough, and possessed all the adjuncts of a well-governed town, such as municipal buildings, markets, baths, free libraries, museum, hospitals, electric lighting and tramways, and an excellent supply of water. Commercially, Newport was an important seaport. Its imports and exports during 1903 amounted to no less than 5,922,013 tons. As a coal-shipping port it ranked third in Great Britain, the coal shipments during 1903 being 3,869,496 tons. It had developed the reputation—enviable or otherwise, according to one's point of view—of being the dumping capital of the universe so far as steel is concerned, no less than 267,405 tons being imported during 1903. Its manufactures were extensive and varied, the more important being directly connected with the iron and steel and shipping industries. The main drainage system was carried out in 1857, many of the old sewers and drains previously existing being grafted into the new scheme. The Corporation were advised by the late Mr. (afterwards Sir John) Hawkshaw to disregard their existing conditions, and to carry all the sewers to one main outfall sewer, discharging into the river Usk at the southern end of the town. Owing to a spirit of what had proved to be very false economy, this advice was set aside, and a scheme involving five separate outfalls was constructed. This system had since been very largely extended, and additional outfalls constructed, there being at present fifteen outfalls, varying in size from 4 ft. 6 in. by 3 ft.,

egg-shape, to 12-in. diameter pipes. No ill effects had been experienced from the discharge of crude sewage into the river at so many points, owing to the great rise and fall and velocity of the tide, and the enormous volume of the stream as compared with the sewage. Recent analyses indicate that the river water contained more oxygen than the water supplied from the town mains. The samples for analysis were taken 50 yds. away from the outfalls at low tide. The main outfall sewers had to act as tank sewers for periods varying according to the tides, the maximum being three and a half hours. Very little inconvenience had been experienced from this, though complaints of cellar-flooding in the low-lying portion of the town were occasionally made. A length of about one and three-quarter miles had been paved with wood—karri, jarrah, red gum, creosoted memel, and American red pine treated with joedolite having' been used. Of the hard woods the author preferred jarrah. Red gum had given trouble on account of the abnormal shrinkage, though if the timber were well watered the trouble disappeared. If memel were obtainable in sufficient quantity, it would probably prove a formidable competitor of the hard woods, as it made a very durable and non-slippery pavement. Every town and district had its own special problem. The particular problem for Newport had long been how to cross the river. In 1896 the author suggested that a transporter bridge, an example of which had recently been erected at Bilbao, was a better solution of the difficulty than a subway, as it provided for all kinds of traffic. A scheme so novel and strange necessarily met with severe and even hostile criticism. Ultimately the subway was dropped, but public opinion was not sufficiently advanced to decide for the transporter. Various proposals were afterwards considered, but in 1899, after inspecting the Rouen transporter, a practically unanimous decision was arrived at in favour of a transporter bridge. M. Arnodin and the author were appointed engineers, and the proposal received parliamentary sanction in 1900. Tenders for the work were obtained in the summer of 1902, and substantial progress had been made by the contractor, Mr. Alfred Thorne. It was hoped that the works would be completed and in operation in the fall of 1905. The bridge was being constructed on Arnodin and Palacio's patented system, the chief feature of which is the provision of arrangements permitting the renewal of the most important of the suspension parts in detail without stopping the working of the moving portion of the structure. The bridge was really a suspension bridge of considerable height and span, carrying on its undersides lines of rails. On these rails will run a truck, from which is hung a platform or car, suspended at the level of the river banks. The principal load to be considered was that due to the effect of high winds. The chief dimensions were as follows:—Span, centre to centre of towers, 645 ft.; space between faces of piers, 592 ft.; clear height to underside of stiffening girder from high water mark, ordinary spring tides, 177 ft.; height of tower from pier cap or level of approach road to saddle, 241 ft. 6 in.; distance between centres of anchorages, 1,545ft.; centre of tower to centre of anchorage, 450 ft. The towers are of open lattice steel work, the bottom parts of the legs being spaced at central intervals of 78 ft. 9 in. (faces parallel to the river) by 36 ft. (transverse faces). The towers were solidly anchored to the masonry piers by steel bolts and shackles connected to the rocker spindle on which they rest. Each tower would be fitted with a stairway carried to the level of the bridge platform. The estimated weight of steel in a tower was 275 tons. The suspension cables were sixteen in number, four inside and four outside each side of each stiffening girder. They were connected by steel shackles to the main spindles or pins on expansion saddles on the top of each tower, the anchoring cables being similarly connected. Diagonal cables were introduced over a portion of the span. The weight of cables and suspension parts was 293 tons. The stiffening girders were 16 ft. in depth, being spaced laterally at central distances of 26 ft. 3 in. The weight of the girders and wind bracing was 539 tons. On each side of the web of the bottom boom of each girder a line of rails would be laid; on these rails would run a truck 104 ft. in length, furnished with sixty wheels, fifteen inside and fifteen outside on each side, with horizontal wheels engaging laterally on the edges of the flange plates. From this truck the car or platform was suspended by thirty steel cables which were crossed so as to form a trussing in order to prevent swinging motion either laterally or longitudinally. The car was 33 ft. in length by 40 ft. in width, and resembled a section cut from a 40-ft. street. It was designed to carry a test load of 66 tons in addition to its own weight (51 tons), making a total of 117 tons in all. The motive would be electricity, the motors being controlled from the moving car. The time of crossing would be about one minute, though this could be reduced if necessary.

Newport Borough Asylum.

Mr. A. J. Wood, architect, read a paper on Newport Borough Asylum. He said this asylum, which was now in course of erection, is situated at Caerleon, on a good site commanding pleasant views of the surrounding country. The buildings would provide accommodation in the first instance for 368 patients, 184 of either sex, while the administrative offices were designed for 500, the number to be ultimately accommodated. The asylum was arranged with administrative offices placed centrally. There were three blocks for patients on either side, and the workshops, laundry, and boiler-house were at the rear. The patients' blocks were all two-story buildings. The one nearest the centre on either side was allotted to sick and infirm cases, and consisted of a ward for thirty patients on each floor. The next block was designed for thirty-five epileptics and thirty-five quiet chronics, the epileptics being accommodated in a ward on the ground floor, and the quiet chronics in a similar ward on the first floor. Beyond this was the recent and acute block, which comprised a ward for twenty-seven patients on either floor. The future extensions would consist of a block beyond the recent and acute on each side for working patients, that on the female side being contiguous to the laundry, and that on the male side adjacent to the workshops. The whole of the wards were entirely self-contained, and are planned with the special requirements for the respective classes of patients. The day-rooms had cheerful and uninterrupted outlooks, and they, together with the dormitories, were thoroughly lighted and ventilated. The sanitary arrangements were placed in spurs at the back of the wards, from which they were separated by cross-ventilated lobbies. Staircases of artificial stone were placed at the extreme end of each block, thus affording two means of exit from every portion of the wards. The wards were designed on the continuous principle, which not only admitted of economy in working, but was also the most convenient for supervision. The official was placed centrally to the south of the administrative offices. The great fall in the ground back to front would not admit of this block being placed to the north, the position recommended by the Commissioners in Lunacy. It was a two-story building, containing on the ground floor committee rooms, offices for the medical superintendent, assistant medical officer, and clerk, pathological room, receiving room, and photo studio. The upper floor is allotted to the assistant medical officers and the matron, their quarters being quite separate and reached by different staircases. The dining and recreation hall was placed to the south of the kitchen offices. It was conveniently arranged for service from the kitchen and for entertaining purposes, and had separate entrances for males and females. After referring to the kitchen store and laundry, Mr. Wood said that on the male side, in close proximity to the new block for working patients, were the workshops. They comprised shops for shoemakers, tailors, upholsterers, carpenters, plumbers, painters, and glaziers, bricklayers' shed, foreman's office, etc. The blocks for attendants and nurses were placed in the usual position east and west of the administrative offices. They include the necessary mess and recreation rooms on the ground floor, the upper floor being allotted to night nurses and domestics on the female side, and to night attendants on the male side. In addition to a bath in each ward, a general bath-house was provided on either side, with the necessary dressing-room, etc., attached. Besides being provided with open fire-places, the buildings were warmed throughout on the low-pressure hot-water system. Fresh air is admitted at the floor-level at the backs of radiators, coils, and systems of pipes. The vitiated air was extracted at the ceiling and conveyed by flues formed in walls and chimney breasts to trunks in the roofs, which lead to main upcast shafts in which electric fans were provided to ensure an upward current. The buildings were to be lighted throughout by electricity. The water was from the Corporation supply, storage cisterns being provided in each section of the buildings, sufficient for a day's requirements. The Committee had purchased houses already existing on the estate for the medical superintendent and steward. The accepted tenders for the work amount in the aggregate to 102,098*l.*, made up as follows:—Buildings, 96,165*l.*; electric plant, 3,433*l.*; electric wiring and fittings, 2,500*l.*

The members had luncheon together at the King's Arms Hotel, and the afternoon was devoted to visits to the transporter bridge works on the river Usk, described in Mr. Hayes's paper. The interest of the meeting principally centred in the transporter bridge works, the only other bridge of this type in the United Kingdom being that to connect Widnes and Runcorn, and which was inspected at the meeting held in those towns in July of last year.

THE ASSOCIATION OF MANAGERS OF SEWAGE DISPOSAL WORKS.

A MEETING of the Association of Managers of Sewage Disposal Works was held in Bradford on Saturday last, having been organised by the Council of the Yorkshire District. The object of the visit to Bradford was to inspect the North Bierley and Frizinghall sewage works. The President of the Association, Mr. Scott Moncrieff, of London, and the Chairman of the Council, Mr. J. T. Hall, of Staines, were among those present.

Meeting at the Town Hall, the members of the Association were received by the Mayor (Alderman David Wade). Afterwards, with Mr. E. J. Smith (Chairman of the Bradford Sewage Committee), and Mr. J. Garfield (Sewage Works Engineer), as cicerones, the party made a tour of inspection around the North Bierley and Frizinghall works. Before entering upon their examination of the latter works they were given a *résumé* of the position of Bradford in the matter of sewage disposal, by Mr. E. J. Smith. There were, said Mr. Smith, eleven different sewage works in Bradford, but those at Frizinghall were the largest. At North Bierley the sewage was treated on the septic tank and filtration system; at the remaining works by chemical precipitation and artificial and land filtration. The Frizinghall works drained about 11,000 acres. Having given a brief description of the processes through which the sewage went, the speaker said that one of the great difficulties which had had to be met was the matter of the sludge, but that was now assuming a more amenable aspect, the processes employed making possible the extraction of from twenty to twenty-five per cent. of the grease along with the water. The grease was sold. Concluding, the speaker referred to the acquisition by the Corporation of land at Esholt for sewage disposal purposes, and said the effluent would be conveyed thither in a sewer about 10 ft. in diameter and from two and three-quarter to three miles long, estimated to cost 150,000*l.*

The tour round the works proved of great interest to the party, to many of whom the grease-extracting processes were new. On the completion of their inspection of the works, the Association were entertained to tea at the offices. At a subsequent meeting, presided over by Mr. Scott Moncrieff, Mr. J. Garfield read a paper on "The Extraction of Grease from Sewage." Having described the methods at present in use, Mr. Garfield explained that at the Frizinghall works plant was being laid down for the extraction of grease by distillation. With an experimental plant it had been found that practically all the grease could be extracted, the cake being left in a dry powder, retaining all the nitrogen which it originally had.

The members of the Association in the evening paid a visit to the Exhibition.—*Yorkshire Observer.*

MEMORIAL FOUNTAIN, FELLING, NORTHUMBERLAND.—A fountain, which has been erected in Victoria-square, Felling, in commemoration of the local men who took part in the South African war, was opened on the 4th inst. The memorial has been erected, at a cost of 140*l.*, by Mr. J. Wilkinson, contractor, Felling, from the designs of Mr. H. Miller, architect, also of Felling.

THE ARCHITECTURAL ASSOCIATION SUMMER VISITS:

II.—COLCHESTER.

THE selection of the ancient Roman city of Colchester as the scene of the second Summer Visit on the 11th inst. was in every way an unqualified success. In the five hours devoted to study a large number of architectural and archæological objects of great interest reflecting the life and history of the town were inspected, ranging in time from the recently-built Town Hall back to the fortifications and other remains of the Roman occupation. The party was fortunate in having various gentlemen specially versed in the respective subjects to direct attention to the salient points of each.

At the Town Hall, the architect, Mr. John Belcher, A.R.A., discoursed upon his work and the difficulties of the problem to be overcome. We have at various times illustrated the design,* and on January 4, 1902, gave an account of the materials, the planning, and other matters, so that it is only now proposed to refer briefly to some general points of interest. A great effort had to be made to house the large accommodation on the small site and the problem was complicated by a variety of street levels and by scheming certain parts in connexion with an adjoining building. In essentials, the architect has succeeded although some sacrifice has been made in corridor and staircase space and a departure from custom is seen in the placing of the large hall on the top floor. The entrances and passages are well contrived and cleverly adapted to their respective levels. The Moot Hall is a well proportioned chamber and found to be completely successful in its acoustic properties. The general use of white in the mural colouring was perhaps felt to be overpowering; this is particularly the case in the Council Chamber, in which the absence of toned colours not only detracts from the value of the painted ceiling but confuses the sense of scale of the room. General approval was spontaneous as to the interior effects of the law courts, where simple, and withal dignified, treatments of oak panelling and seating are introduced. From an artistic as well as an utilitarian point of view the inspection of this municipal building was a valuable source of instruction.

Examples of XIXth century work were seen in the Albert School of Art, the Essex and Suffolk Fire Office, with its colonnaded loggia spanning the street pavement, and the Church of St. Nicholas, a rebuilding work by Sir Gilbert Scott. The large Water Tower at the west end of the town, comprising a huge iron storage tank carried upon brick piers and arches, is a good example of modern engineering.

Colchester and its district are singularly deficient in stone and other natural building materials, therefore the extensive use of brick and plaster is consequently found. Of Georgian and Anne architecture examples are so numerous that the greater part of the town would seem to have been rebuilt, and this activity was probably the outcome of the flourishing cloth-making industry which had been introduced by Flemish refugees. Under the able guidance of Mr. Horace Round, "Holly Trees" and "East Hill House" were visited, both of which have splendid gardens, whilst the houses themselves are placed close upon the main street—a typical arrangement of this period. Dwellings with plastered fronts overhanging upper stories and semi-circular oriel windows are both plentiful and of good detail. Of medieval work much is to be seen, and in all cases a general use of brickwork has been made with material closely resembling the thin Roman bricks, and it is not too much to suppose that much of this ancient material was largely re-used. The construction consisted of brick quoins and arches filled in with a rubble of small stones of marine or estuarine formation. The Church of St. Giles suggests later erection than other specimens, such as the tower of St. Martin's. St. Botolph's Priory is a particularly interesting Norman ruin dating from about 1100, having large circular piers and arches to the nave whilst the west front has a series of interlacing brick arches. The west door is probably a little later in date, and has stone caps and shafts, alternate carved stone and plain brick rings in the arch, indicating a careful and sparing use of the imported material, and the whole bears a striking influence of Roman work. The tower of Holy Trinity Church is an unique specimen of Saxon work divided by brick string courses into three stories and the use of quoins and filling is identical with later building. The ground story has a straight pointed or gable-headed doorway with brick label and imposts; various narrow single lights are placed on the four fronts but the topmost story has double lights, each with a brick mullion. The roof and wooden cornice are doubtless XVIIIth century work.

Colchester Castle, said to be the largest keep in England, was the subject of keen attention, and an attractive account of its plan was given by Mr. Round. In arrangement it resembles the keep of the Tower of London, although in size it is twice as large. The surrounding earthwork, the original entrance, the vaults, and the large stone newelled staircase were pointed out amongst a wealth of other archæological information. Part of the castle is used as a library and museum and the latter has in certain respects the finest collection of Romano-British remains in the kingdom.

Finally the Roman walls and bastions were inspected, in which the coursed rubble and brick bands are everywhere noticeable.

* September 4, 1897, May 17, 1902, and December 13, 1902.

THE LONDON COUNTY COUNCIL.

THE first meeting of the London County Council after the Whitsuntide recess was held on Tuesday in the County Hall, Spring-Gardens, Mr. J. W. Benn, Chairman, presiding.

Marylebone Electric Lighting.—The Finance Committee recommended that the Parliamentary Committee should take the necessary steps for the amendment of the Council's Money Bill of 1904, so as to enable the Council to borrow and to lend to the Marylebone Borough Council in the event of that Council being empowered in this session to borrow for the purchase of a portion of the undertaking of the Metropolitan Electric Supply Company, Limited, the sum of 1,415,000*l.*, in substitution for the sum of 1,365,000*l.*, at present inserted in the Money Bill. This was agreed to.

Loans.—On the recommendation of the Finance Committee, it was agreed to lend Battersea Borough Council 3,866*l.* for preliminary expenses in connexion with a housing scheme, 3,195*l.* for artesian wells at the baths, and 4,500*l.* towards the cost of street improvements; Fulham Guardians 14,000*l.* for poor-law purposes; Hammersmith Borough Council 10,634*l.* for electric light installation and meters; Poplar Borough Council 6,180*l.* for paving works; and Poplar Guardians 9,610*l.* for poor-law purposes.

Conditions of Labour in School Building Work.—Sir W. Collins, in answer to a question, said that the Council's conditions of labour, etc., would be incorporated in all future contracts for school building work.

Goldsmiths' Institute, New-cross.—The Education Committee, in reporting on the future of the Goldsmiths' Institute, New-cross, expressed the opinion that the retention of the Institute as a centre for evening instruction in the higher grades was highly important, and they were giving further consideration to the question of the utilisation of the Institute as a day training college. Upon this matter they proposed to report fully at a later date.

Mr. Evan Spicer said there was considerable local consternation at the prospect of the closing down of the useful work, both educational and social, which had been carried on at the Goldsmiths' Institute. In his opinion the proper body for carrying on the work there was the Council, to whom it ought to have been offered instead of to the University of London.

Sir William Collins associated himself with the remarks of Mr. Spicer, and stated that the Committee would be in a position to report thereon at a later date.

New Schools, etc.—The erection of a temporary school in North Camberwell to accommodate 300 children was sanctioned.

The Committee reported that, in order that they might be in the position to report upon the structural fitness and educational efficiency of the non-provided schools, they had arranged for a general survey by the inspectors, which was now being made.

It was agreed that, wherever sufficient bathing accommodation could be found for the admission of scholars of non-provided schools to baths the owners of which accepted the swimming vouchers of the late School Board, arrangements should be made for the extension of the swimming scheme so as to include the pupils of non-provided schools.

It was decided to proceed with the erection of new schools in Gordonbrock-street, Lewisham (W. Downs, contractor, 22,863*l.*), New-end, Hampstead (Messrs. E. Lawrance and Sons, 19,708*l.*), and Magdalen-street, Rotherithe (Messrs. Spencer, Santo and Co., Ltd., 7,947*l.*), and with enlargements and improvements in the schools at Sydenham-hill-road, Lewisham (Messrs. J. and C. Bowyer, 10,357*l.*), William-street, Fulham (Mr. F. G. Minter, 4,437*l.*), and Sleaford-street, Clapham (Messrs. Stimpson and Co., 9,210*l.*).

Teacher of Cabinet-making and Cabinet Design.—The following recommendation was agreed to: "That Mr. Percy A. Wells be appointed in charge of the cabinet-making work at the L.C.C. Shoreditch Technical Institute, subject to the usual conditions attaching to the Council's service; that he be required to devote the whole of his time to the day and evening classes of the Institute with the exception of one evening a week to the L.C.C. Central School of Arts and Crafts, and such time as may be required for the London Day Training College."

Architectural Education.—The Education Committee reported that they had received a letter from the Royal Institute of British Architects, stating that they have, after consultation with education authorities, established a board of architectural education to co-ordinate the existing schemes of architectural education throughout the United Kingdom, and to approach the various institutions where architectural instruction is given, with a view to the adoption of a uniform system of training which it is hoped to organise; adding that they desire to add representatives from the universities and other educational bodies to the board as advisory members, and asking whether the Council will appoint a representative. The Committee recommended, and it was agreed (*a*) That a representative of the Council be appointed to serve on the architectural education board of the Royal Institute of British Architects. (*b*) That Mr. Lewen Sharp be appointed as the representative of the Council.

Heath Asylum, Bexley—Erection of Cowsheds.—The Asylum Committee reported that they had had plans prepared for buildings providing the necessary accommodation for forty cows. The buildings will be constructed of Fletton brick with pantile roof. The estimated cost, inclusive of the necessary roads, is 2,780*l.* They recommended accordingly, and the recommendation was agreed to.

Glass Shelters.—The Building Act Committee recommended that permission be given to Messrs. J. Lyons and Co. to erect an iron and glass shelter to the entrance of their new restaurant in Piccadilly.

Mr. Jephson moved that the matter be referred back, on the ground that if permission were given in this case it would have to be given to every applicant, with the result that the pavements would be covered with shelters.

Sir Wm. Richmond said it appeared to him that these shelters were extremely undesirable from every point of view, excepting inasmuch as they might protect a few people from the rain. He did not say that iron and glass might not be made beautiful, but in this country we were not adepts at it. He had inspected some of the existing shelters, and he confessed that more hideous monstrosities he had never seen in any country in Europe.

Capt. Hemphill, the Chairman of the Committee, agreed to take the matter back.

London Building Acts Amendment.—The Building Act Committee reported as follows, the recommendation being agreed to:—

"The Council, on November 4, 1902, resolved to introduce into Parliament a bill to amend the provisions of the London Building Act, 1894, relating to safety from fire. Subsequently, on March 3, 1903, the Council decided not to proceed with the bill, but to refer it to the Building Act, Fire Brigade, and Parliamentary Committees with a view to their advising the Council, after consultation with such persons and authorities as might be desirable, as to the ultimate form the bill should assume. The bill referred to dealt only with the question of safety from fire and left untouched many other important questions with respect to which the London Building Acts had been found to need amendment, and as the Council had decided that this bill should not be proceeded with in the session of 1903, we felt strongly that any amended bill should aim at securing all the important amendments required in the London Building Acts. It was not however found practicable for three Committees to prepare the material for a bill of this character, and the Council on May 26, 1903, on the recommendation of the committees concerned, rescinded the resolution referring it to those committees, on the understanding that the Building Act Committee would proceed with the preparation of proposals for securing all the amendments required in the London Building Acts, conferring with such authorities and persons as might be desirable. We have accordingly devoted much time and attention to this task, in connexion with which we have considered

uggestions made by the Fire Brigade, Local Government, Main Drainage, Public Control, and Public Health Committees of the Council, by the majority of the Metropolitan Borough Councils, and by such bodies as the Royal Institute of British Architects, the Surveyors' Institution, the Institute of Builders, the District Surveyors' Association, and many other bodies. The work is one of considerable magnitude and difficulty, and the time at our disposal has not been sufficient to enable us to definitely settle all our proposals for the amendment of the Act. It is, however, very important that, if possible, the bill should be drafted in a sufficiently approved form for circulation to the bodies concerned before the Council rises for the summer recess, and to enable this to be done we purpose sending on at once to the Parliamentary Committee most of our proposals with an intimation that the remainder will be communicated to them very shortly. It is impracticable at this stage to give full details, but we purpose doing so as soon as possible. We may state, however, that our proposals have for their object, *inter alia*, the protection of life from danger by fire, the conferring of greater powers on the Council with respect to (*a*) the formation of new streets, (*b*) the provision of open spaces about buildings, especially buildings not abutting upon a street, (*c*) the re-erection of buildings within the prescribed distance from the centre of the roadway of a street to a greater height than the old buildings existing on the site, (*d*) the erection of dwelling-houses on land liable to flooding, and the remedying of certain other defects in the Act which ten years' experience of its administration has revealed. We also purpose seeking powers to enable the Council to determine the future building line in any street, so as to facilitate the gradual widening of congested thoroughfares, and we are considering the desirability of enabling the Council to make new streets where necessary, to continue such widened thoroughfares, or to afford through communication. We may state in compliance with standing order No. 365, that we are advised by the solicitor that the Council has power to promote legislation for the purpose in question. We recommend that it be referred to the Parliamentary Committee to prepare a bill for introduction into Parliament in the session of 1905, to amend the provisions of the London Building Acts."

Motor Car Registration.—The Highways Committee reported that the clerk of the Council had from April 20 to June 4, 1904, registered 506 motor cars and 365 motor cycles, thus making the total number of cars and cycles registered up to the last-named date 3,420 and 2,428 respectively. He had also issued during the same period 1,338 licences to drive motor cars or cycles, and general identification marks for motor cars had been assigned to seventeen manufacturers or dealers, the total number of licences and general identification marks issued being 8,533 and 264 respectively.

Improvements Suspended.—The Improvements Committee reported that they had given careful consideration to several suggestions which had been made to them for county improvements involving special statutory powers. These proposals included numerous important and desirable improvements, but after a full and careful review of all the facts, and having regard to the extent of the Council's present financial commitments, they thought it right to refrain from advising the Council to seek powers in the next session of Parliament in connexion with any of the schemes. In view of the large amount of work which the Council had in hand at the present time, in connexion with the reconstruction of existing and the construction of new tramways, the Highways Committee had also decided not to submit any fresh proposals for next session.

This was agreed to without comment.

The Council adjourned at seven o'clock.

APPLICATIONS UNDER THE 1894 BUILDING ACT.

The London County Council at their meeting on Tuesday dealt with the following applications under the London Building Act, 1894. The names of applicants are given between parentheses:—

Lines of Frontage and Projections.

Greenwich.—The erection of a pent over the entrance to a cottage at the Brook Hospital, on the south side of Shooter's-hill-road, Greenwich (Mr. W. T. Hatch for the Metropolitan Asylums Board).—Consent.

Hackney, North.—Three houses with bay windows and a porch upon the south side of Upper Clapton-road, adjoining No. 135, Clapton-common (Mr. C. Cheston for Mr. W. Osment).—Consent.

Hampstead.—A porch to the entrance to "Woodburne," Hollycroft-avenue, Hampstead (Mr. J. Darch for Mr. H. V. Bate).—Consent.

Hampstead.—A one-story shop on the north-east side of High-road, Kilburn, southward of Brondesbury station (Mr. A. Whitelaw for the London and North Western Railway Company).—Consent.

Hampstead.—A timber-framed porch to No. 13, Eton-avenue, Hampstead (Mr. A. F. Faulkner for Mr. Willett).—Consent.

Hampstead.—A deviation from the plans approved for the erection of porches, bay window, verandah, and projecting truss bracket to No. 58, Kidderpore-avenue, Hampstead, so far as relates to an alteration in the position of the house (Mr. T. C. Ovenston for Mr. C. Topham).—Consent.

Kennington.—Bay windows and a porch to No. 52, Priory-road, South Lambeth (Mr. F. Hingston for the Rev. Canon A. Edwards).—Consent.

Lewisham.—The retention of a wood and glass porch at No. 31, Clarendon-road, Lewisham (Mr. E. Leitch for Mrs. Sweny).—Consent.

Lewisham.—Pents to four houses on the southern side of Sydenham-park-road, Lewisham (Mr. H. G. Leslie).—Consent.

Lewisham.—Dwelling-houses with one-story shops in front, on the west side of Brockley-road, northward and southward of Eddystone-road (Messrs. Tompkins).—Consent.

Lewisham.—Concrete balconies in front of four houses in course of erection on the west side of Newlands-park, Lewisham (Mr. H. E. Davey for Mr. W. Cooper).—Consent.

Marylebone, East.—A bay window in front of No. 53, Queen Anne's-street, Cavendish-square, St. Marylebone (Messrs. Young and Hall for Mr. W. Turner).—Consent.

Paddington, South.—A deviation from the plans approved for the erection of porches on the ground floor, and oriel windows and balconies on the first and second floors of Nos. 18 to 23, inclusive, Hyde-park-place, Paddington, so far as relates to an alteration to the oriel windows on the first floor of No. 18, Hyde-park-place (Mr. A. Mitchell Torrance for Mr. H. B. Gross).—Consent.

Peckham.—Three one-story shops upon part of the forecourt of No. 18, Rye-lane, Peckham (Messrs. Done, Hunter, and Co. for Messrs. G. and H. Neal).—Consent.

St. George, Hanover-square.—That permission be given to Mr. G. Odone to retain a projecting iron and glass shelter at the entrance to No. 152, Victoria-street, Westminster, extending beyond the general line of buildings in the street).—Agreed.

Strand.—A sign in front of "Craven House," Northumberland-avenue, Strand (Messrs. Yates, Haywood, and Co. for Messrs. Simon Brothers).—Consent.

Wandsworth.—Pents and half-timber gables to twelve semi-detached houses on the east side of Enmore-street, Putney, southward of Howard's-lane (Mr. J. C. Radford for Mr. E. R. Parry).—Consent.

Wandsworth.—Pent in front of a cottage at the Grove Hospital on the north side of Blackshaw-road, Tooting (Mr. W. T. Hatch for the Metropolitan Asylums Board).—Consent.

Wandsworth.—Porches to eighteen houses on the east side of Campion-street, Putney, southward of Howard's-lane (Mr. J. C. Radford for Mr. A. E. Pierce).—Consent.

Wandsworth.—Houses with shops on the south side of Mitcham-road, Tooting, between "Woodside" and "Melbourne-cottage" (Mr. W. Bartholomew).—Consent.

Wandsworth.—Houses upon the site of "Ravenswood," Streatham-common (south side), Wandsworth (Mr. R. I. H. Pippette for Mr. E. J. James).—Consent.

Woolwich.—That the application of Mr. R. Stewart for an extension of the periods within which the erection of eighteen houses on the north side of Bexley-road, Eltham, eastward of Elderslie-road, was required to be commenced and completed, be granted.—Agreed.

Width of Way and Lines of Frontages.

Kensington, South.—A one-story shop upon the forecourt of No. 1, Reece-mews, South Kensington, to abut upon Harrington-road (Mr. J. A. J. Keynes).—Consent.

Clapham.—That the application of Mr. R. S. Gray, for an extension of the period within which the erection of eleven houses with bay windows on the east side of Loats-road, and seven houses with bay windows on the west side of Lyham-road, Clapham, was required to be completed, be granted.—Agreed.

St. George, Hanover-square.—Two iron and glass shelters at the St. George's Union Workhouse, to abut upon Wallis-yard, Buckingham-palace-road, St. George, Hanover-square (Mr. T. Worlock for the Guardians of the St. George's Union).—Consent.

Formation of Streets.

Wandsworth.—That an order be issued to Messrs. W. W. Jenkinson and Co., sanctioning the formation or laying out of new streets for carriage traffic upon the Streatham-park estate, to lead out of Ullathorne-road, Thrale-road, and Aldrington-road, Streatham.—Consent.

Space at Rear.

Chelsea.—The "Swan" public-house, Sloane-street, Chelsea, with an open space at the rear (Mr. A. H. Mackmurdo).—Consent.

St. Pancras, West.—A modification of the provisions of section 41 with regard to open spaces about buildings, so far as relates to the proposed erection of an addition at the rear of No. 115, High-street, Camden Town, St. Pancras, to abut upon Delancy-street (Mr. G. H. Luetchford for Mr. E. Parrish).—Consent.

Whitechapel.—A modification of the provisions of section 41 with regard to open spaces about buildings, so far as relates to the proposed erection of a block of working-class dwellings on the site of Nos. 32, 34, and part of No. 36, Pelham-street, Spitalfields, with an irregular open space at the rear (Mr. J. R. Moore-Smith for Mr. J. Donn).—Consent.

Buildings for the Supply of Electricity.

Bermondsey.—Works in connexion with the erection of coal bunkers, boilers, and conveyors at the generating station on the west side of The Neckinger, Spa-road, Bermondsey (Messrs. Kincaid Waller, Manville, and Dawson for the Council of the Metropolitan Borough of Bermondsey).—Consent.

Means of Escape in Case of Fire.

Strand.—(*a*) That the resolutions approving, under section 63 of the Act, of the means of escape in case of fire proposed to be provided on the fifth story of No. 7, Golden-square, and consenting, under section 73 of the Act, to the erection of a projecting balcony in front of Nos. 6 and 7, Golden-square (Mr. L. V. Hunt for Messrs. J. B. Ellison and Sons, Ltd.) be rescinded. (*b*) That Mr. L. V. Hunt be informed that the Council has considered the block, ground, and roof plans, front elevation, and section A.B., and fifth floor plan and section A.B., submitted by him, showing the means of escape in case of fire proposed to be provided, in pursuance of section 63 of the Act, on the fifth story of No. 7, Golden-square, Strand, for the persons dwelling or employed therein, and that the Council will issue a certificate.—Consent.

Lines of Frontage and Projections.

Fulham.—Buildings on the east side of Townmead-road, Fulham (Messrs. Macfarlane, Lang, and Co.).—Consent.

Westminster.—Four projecting oriel windows and balconies to a building on the north side of Wood-street, Westminster (Mr. W. D. Caröe for the Ecclesiastical Commissioners).—Consent.

Clapham.—Eight houses on the south side of Broomwood-road, Clapham-common, between Wroughton-road and Hillier-road (Mr. J. Smith).—Consent.

Hampstead.—An addition at the rear of No. 15, Steeles-road, Hampstead, to abut upon Eton-villas (Messrs. Bowden Brothers for Miss Hossack).—Consent.

Westminster.—That the application of Mr. W. Flockhart for an extension of the periods within which the erection of a projecting doorway at a new entrance to a building on the north side of Great Peter-street, Westminster, eastward of St. Anns-street, was required to be commenced and completed, be granted.—Consent.

Hampstead.—Porches in front of Nos. 32, 34, 36, and 38, Hollycroft-avenue, Hampstead (Mr. W. J. King).—Consent.

Lewisham.—A one-story addition to No. 107, Ringstead-road, Catford, to abut also upon Laleham-road (Messrs. Castle and Co. for Mrs. Fookes).—Consent.

Mile End.—A one-story shop upon part of the forecourt of No. 67, Globe-road, Mile End (Mr. J. A. Thompson for Mr. W. H. Wayland).—Consent.

St. George, Hanover-square.—An iron sign to a temporary wood and iron building on the south side of Piccadilly, eastwood of the Green Park, St. George, Hanover-square (Messrs. Waring and Gillow, Ltd.).—Consent.

Strand.—A projecting sign at Nos. 1 to 5, Poland-street, St. James, Westminster (Messrs. Bartlett and Ross for the Lacre Motor Car Company, Ltd.).—Consent.

Wandsworth.—Porches to thirteen houses on the west side of Campion-street, Putney, southwards of Howard's-lane (Mr. J. C. Radford for Messrs. Sampson Brothers).—Consent.

St. George-in-the-East.—A building on the south side of Wellclose-square, St. George-in-the-East (Messrs. Nash and Detmar for The Tower Tea Company, Ltd.).—Consent.

Hampstead.—A bay window in front of No. 26, Ellerdale-road, Hampstead (Mr. V. H. King for Dr. A. H. Thompson).—Refused.

Lewisham.—A porch and projecting hood, projecting roof over cantbay to the first floor, and a wooden-faced gable with hanging tiles, to a proposed detached house on the north side of Lowther-hill, Brockley-park, Lewisham (Mr. T. M. Garrood for Mr. A. F. Randall).—Refused.

Lewisham.—A one-story addition to No. 145, Sunderland-road, Lewisham, to abut upon Perry-vale (Mr. J. T. Hodson).—Refused.

Lewisham.—A one-story addition to "Vancouver House," Dacres-road, Lewisham, to abut upon Inglemere-road (Messrs. Hennell and Son for Mr. W. King).—Refused.

Strand.—Two projecting signs in front of No. 26, Charing-cross, Strand (Mr. J. N. Taylor for the Great Western Railway Company).—Refused.

Wandsworth.†—A one-story shop upon part of the forecourt of No. 247, Upper Richmond-road, Putney (Messrs. A. W. Taylor and Co. for Mr. P. F. Taylor).—Refused.

Wandsworth.—Five houses with projecting shop fronts on the south side of Franciscan-road, eastward of Gassiott-road, Lower Tooting, Wandsworth (Mr. W. Bartholomew for Mr. P. Miller).—Refused.

Width of Way.

Deptford.—A deviation from the plans approved for the erection of buildings on the north and south sides of Blake-street, Deptford, so far as relates to the alteration in the position of the boundary fence at the east end of the buildings on the north side of the street (Mr. R. Robertson for the Housing of the Working Classes Committee).—Consent.

Hackney, North.—Buildings on the east and west sides of a roadway leading out of the north side of Farleigh-road, Hackney, between Nos. 3 and 5, with external walls and forecourt fence at less than the prescribed distance from the centre of such roadway (Mr. G. H. Capper for Mr. A. C. Jackson).—Consent.

Kensington, South.†—Retention of a studio on the south-west side of Seymour-place, Fulham-road, Kensington, with a forecourt fence at less than the prescribed distance from the centre of the roadway of Seymour-place (Mr. C. H. B. Quennell for Messrs. Ramsden and Carr).—Consent.

Lewisham.—One-story buildings at the rear of No. 118, Rushey-green, Catford, with external walls at less than the prescribed distance from the centre of the roadway of Holbeach-road (Messrs. Hatch and Hatch for Messrs. Lorimer and Co., Ltd.).—Consent.

Width of Way and Lines of Frontage.

Kensington, South.†—An addition at the rear of Campden-lodge, Campden-hill-road, Kensington, to abut upon Tor-gardens, with a boundary fence at less than the prescribed distance from the centre of the roadway of Tor-gardens (Messrs. Chesterton and Sons for Dr. R. Batten).—Consent.

Width of Way and Construction.

Brixton.—An iron and glass photographic studio at the rear of No. 28, Coldharbour-lane, Brixton, to abut upon Crawford-street (Mr. E. J. Wallis for Mr. G. Turner).—Consent.

Width of Way and Space at Rear.

St. George-in-the-East.—An addition to No. 42, Berner-street, Commercial-road, St. George-in-the-East (Mr. J. R. Moore-Smith for Mr. J. Donn).—Refused.

Formation of Streets.

Wandsworth.—That an order be issued to Mr. C. W. Braine sanctioning the formation or laying out of new streets for carriage traffic out the the east side of Merton-road, Wandsworth, and, in connexion therewith, the widening of a portion of Merton-road (for the Wandsworth and Putney Gas Light and Coke Company).—Agreed.

Lewisham.—That an order be issued to Mr. J. M. Kennard sanctioning the formation or laying out of a new street for carriage traffic to lead from Sunderland-road to Church-road, Perry-vale, Lewisham (for Mr. E. C. Christmas).—Agreed.

Space at Rear.

Kensington, South.—A modification of the provisions of section 41 with regard to open spaces about buildings, so far as relates to the proposed erection of a building at No. 40, Hyde-park-gate, Kensington (Mr. R. J. Worley).—Agreed.

Southwark, West.—An addition at the rear of Nos. 21 and 23, St. George's-road, Southwark).—Consent.

Greenwich.—A modification of the provisions of section 41 with regard to open spaces about buildings, so far as relates to the proposed erection of a building at No. 113, The Stowage, Deptford, with an irregular open space at the rear (Mr. J. Webster for Messrs. May and Roberts).—Consent.

Wandsworth.—A modification of the provisions of section 41 with regard to open spaces about buildings, so far as relates to the proposed erection of a building on the south side of Franciscan-road, Lower Tooting, with an irregular open space at the rear (Mr. W. Bartholomew).—Consent.

Space at Rear and Projections.

Whitechapel.—Buildings upon a site abutting upon the north side of Whitechapel-road and west side of Brady-street, Whitechapel, with open spaces at the rear, and with projecting pilasters (Mr. H. L. Florence for the Whitechapel and Bow Railway Company).—Consent.

Deviations from Certified Plans.

Holborn.—Deviations from the plan certified by the district surveyor, so far as relates to the proposed rebuilding of Nos. 175 and 176, Drury-lane, Holborn (Mr. W. Woodward for Mr. M. Pearson).—Consent.

Means of Escape from Top of High Buildings.

Hoxton.—That Messrs. Bradshaw and Gass be informed that the Council has considered the drawings submitted by them on behalf of the Trustees of the Leysian Mission, showing the means of escape in case of fire, proposed to be provided in pursuance of section 63 of the Act, on the sixth story of the Leysian Mission-buildings, City-road, for the persons dwelling or employed therein . . . and that the Council will issue a certificate under the section.—Agreed.

The recommendations marked † are contrary to the views of the local authority.

ARCHITECTURAL SOCIETIES.

LEICESTER AND LEICESTERSHIRE SOCIETY OF ARCHITECTS.—At a Special General Meeting of this Society held on the 3rd inst., to discuss the question of statutory qualification of architects, the following resolution was passed:—

"That we, the members of the Leicester and Leicestershire Society of Architects at a Special General Meeting held on June 3rd, 1904, are of the opinion that the general principle of statutory qualification of architects, if carried through on the initiative of the Royal Institute of British Architects, is desirable in the best interests of architecture and those who practise it."

Illustrations.

SCULPTURE AT THE ROYAL ACADEMY.

THE illustrations of sculpture in these two plates are from photographs lent to us by the artists.

They are all referred to in the first article in this issue, on "Sculpture at the Royal Academy."

LECTERN, MINEHEAD CHURCH.

THIS lectern was made by Mr. Nelson Dawson for Minehead Church, where it is now in use.

It is made of forged iron enriched with brass, the desk being of oak. In the centre panel is a figure of St. John the Baptist; in the side panels are two angels. The lower panel is filled with a design of vine and grapes.

All these are of solid brass, and left bright to contrast with the wrought iron.

BURTON HALL, CHESTER.

THIS house is now being built for Mr. Henry Gladstone, by Messrs. White and Son, of Liverpool. Portions of the former house are incorporated in the west wing, forming the drawing-room, library, and bedrooms over.

The scheme includes a considerable amount of work in terraces and approaches. An enclosed forecourt is formed on the north front with a new approach road from the village. Beyond the forecourt is a raised terrace garden with lily pool, on the east side of which some old farm buildings are being adapted for potting shed, mushroom house, fruit room, etc. The north side of the terrace garden is formed by new stabling, and the west side is enclosed with a stone wall. The terraces on the west and south sides are in two stages, the ground falling from north-east to south-west, and the principal views being south and west. The house is faced with red sandstone quarried on the estate. The double entrance corridor, the music room, and parts of the dining-room and boudoir are vaulted in breeze concrete. The stairs are of concrete with oak treads. The roofs are covered with green Westmorland slates, and the ridging is of lead. The fountain court is plastered between tile dressings. The architects are Messrs. Nicholson and Corlette, of London.

"FRAMEWOOD," STOKE POGES.

THIS house is being built from the designs of Mr. Gerald C. Horsley. The materials are Lawrence's Bracknell bricks, and stone windows on the ground floor. The roof and hanging tiles are red and are hand-made.

The contractors are Messrs. Holloway Bros.

VILLA GUARDAMUNT, ST. MORITZ.

THIS villa was erected last year at St. Moritz, in the Upper Engadine Valley, Switzerland. It is situated on an elevated site above the village, 6,800 ft. above sea level, and in consequence is exposed to considerable variations of temperature. The lower part of the house is of granite obtained from the neighbouring mountains, whilst the upper floors are entirely constructed of wood. The roof is of rough green stone slates laid in diminishing courses.

The building is a combination of Swiss methods of construction with English requirements of to-day. The outer shell is formed of long baulks of timber 10 in. by 4½ in. grooved and tongued together, and halved and notched at the angles. The inner shell is attached to the outer shell by dovetailed runners to allow for the unequal shrinkage of external and internal woodwork. There is also an airspace of 2½ in. between the two shells, and a layer of isolation paper, together with one of brown paper and two of canvas, and some parts of the house are panelled in oak. The house is rendered fireproof in accordance with Swiss building regulations, and is heated by stoves and fireplaces, all leading to one central flue stack.

The masonry work was built by Gebrüder Capretz, and the wooden building was constructed at Chür, in the Grisons, thence brought by rail to St. Moritz, where it was erected by Herr J. P. Fopp, who was also responsible for the whole of the furniture. Both house and furniture were erected from the designs and under the supervision of Mr. H. Inigo Triggs, of London.

COMPETITIONS.

NEWCASTLE-UPON-TYNE GRAMMAR SCHOOL.—At a meeting of the Governors of this School, held on the 9th inst., the awards made on the plans submitted by the competing architects were as follows:—First premium, 100*l.*, to Messrs. Russell and Cooper, 11, Gray's Inn-square, London; second premium, 50*l.*, to Mr. Francis W. Bedford, 22, Old Burlington-street, London; third premium, 25*l.*, to Messrs. Ashford and Gladding, 19, New-street, Birmingham. The plans were open for public exhibition at the Town Hall, Newcastle-upon-Tyne, daily between the hours of 10 a.m. and 6 p.m. until the 16th inst. The number of plans submitted in the competition was 117, and the assessor was Mr. John Bilson, of Hull.

BOOKS RECEIVED.

MODEL ANSWERS TO QUESTIONS SET BY THE SANITARY INSTITUTE. (The Sanitary Publishing Company. 2s. 6d.)

NEAR OXFORD: a popular historical and architectural Handbook. By the Rev. H. T. Inman, M.A. (Simpkin, Marshall and Co.)

TRADE CATALOGUES.

THE British Compo-board Company send us a pamphlet giving particulars about Compo-board (which has been before noticed in our pages), with some illustrations of buildings in which it has been used. We may repeat what we have before said, that for many situations Compo-board appears to be an excellent, cleanly, and sanitary way of covering the inside of a room or a warehouse, and is well worth attention for that object.

Messrs. John Harper and Co. (Willenhall) send us a description and price-list of their patent pivot hinges (Doman's patent). The advantages claimed for these hinges are that they are easily fixed, and the doors and gates can be hung flush with the post without cutting away any of the woodwork. "The pins and straps are welded together in such a way that when fixed in their sockets sagging or dropping becomes impossible, and the door or gate will ever remain firm and upright. These hinges, being constructed on the pivot principle, are almost frictionless (the only friction being at the point of the pin in the lower socket), so that the heaviest doors or gates can be opened or closed with the greatest ease." As we have not seen an actual specimen of the hinge in position, we cannot undertake to say how far these claims are borne out. The double-strap pivot gate hinge looks in the illustration a very workmanlike fitting for heavy gates; to say that it "cannot sag when once fixed," however, is assuming that the attachment to the gate post does not give at all, which cannot always be assumed. The hinges would look better if the useless star "ornaments" were omitted. The catalogue also shows a good set of steel gutter brackets.

Correspondence.

DISCUSSION ON PLENUM VENTILATION.

SIR,—In consequence of the late hour at which this was taken last Monday at the R.I.B.A. there was no time in which to reply to the criticisms thereon, but, with the sanction and approval of the President, our reply will be given in the next number of the R.I.B.A. *Journal*, and until this has been perused we trust judgment may be withheld.

WILLIAM HENMAN and
THOMAS COOPER, architects.
HENRY LEA and SON,
Consulting Engineers.

"A CITY TOWER OF HEALING."

SIR,—Professor Beresford Pite's design, published in your last issue, is of particular interest to me, because I have long thought that the "skyscraper" afforded the very best solution of the problem of hospital accommodation in London, and other large cities.

It is a pity, however, to spoil a good idea by illustrating it with a plan open to criticism upon so many points. No doubt it is only a rough sketch intended as a key to the drawing; but the value of the idea will be appraised upon the practicability of the plan rather than the appearance of the building.

In the first place, the cruciform plan for hospitals (notwithstanding the Victoria Hospital, at Glasgow, and University College Hospital, in London) has but few points to recommend it; the strongest being economy of means of access to the ward blocks. In this particular plan, by the way, four staircases and four lifts are shown in the centre, whereas one, or at most two, in that position would have been sufficient. It would be necessary to provide another at the further end of each ward block, otherwise they would be veritable death-traps in case of fire.

Then it is to be noted that the towers at the ends of the wards are to contain operating theatres, sanitary offices, and ward kitchens. In the perspective it would appear that the first and third are wisely omitted in favour of open balconies.

It is difficult to say upon what scale the buildings are drawn. Measured by that immediately below the plan, the wards would be about 50 ft. wide; and the length of the beds (which are shown under the windows), if taken as a guide, would appear to bear out this very unusual width.

Apart from these matters, Professor Pite has done good service in bringing the matter once more to the front and illustrating it by a sketch, which will go far to stir the imagination of those who have, or may have, to deal with the problem of hospital accommodation in large cities.

A. SAXON SNELL.

METROPOLITAN ASYLUMS BOARD.

THE usual fortnightly meeting of the Managers was held on Saturday last week at the Offices of the Board, Victoria Embankment, Mr. Scovell presiding.

Leavesden Asylum.—On the recommendation of the Finance Committee, it was agreed to apply to the Local Government Board for an order authorising the expenditure of 1,800*l.* on the execution of certain work at the laundry at this asylum.

South-Eastern Ambulance Station.—The Works Committee recommended, and it was agreed, that Messrs. W. H. Barber and Sons be appointed to measure certain variations on Mr. W. Reason's contract for additional accommodation for nurses at this station.

Western Hospital.—The Engineer-in-Chief submitted a plan for the provision of additional male staff mess-room and store accommodation at this hospital, and, on the recommendation of the Committee, the plan was adopted and forwarded to the Local Government Board.

Eastern Hospital.—The Works Committee reported having received a communication from Messrs. Hayward Bros. and Eckstein, whose tender was accepted for the erection of fire-escape staircases, both at the Eastern and the South-Western Hospitals, stating that by an error their tender forms for those works had become transposed while being filled up, and that their tenders ought, respectively, to have been—for the South-Western Hospital, 570*l.*, and for the Eastern Hospital, 699*l.*, and not *vice versa*. They further stated that, whilst they were prepared to carry out the works at the Eastern Hospital for the sum of 699*l.*, which would have been the amount of their tender if the error had not occurred, they were not prepared to sign the contract at the amount at which their tender was accepted by the Board. On the recommendation of the Committee, it was agreed to accept the revised tender.

Darenth Asylum.—The Asylums Committee reported that the Commissioners in Lunacy, who recently visited the asylum, urged the importance of replacing certain windows in the ground floor dormitories by doorways for use as fire exits, and suggested that cross-walls should be built in the corridor subways to prevent them from acting as flues in an outbreak of fire. In reporting on the matter, the Darenth Sub-Committee said:—"The question of fire exits was carefully considered by us in connexion with the report of the Commissioners last year. We then formed the opinion that the value of the new doors as fire exits would not be sufficient to justify the large expenditure which would be incurred in their provision. But, as the Commissioners still feel that doors should be provided, we suggest that one window in each of the ground floor dormitories of blocks 6 and 8 should be converted into a doorway by the removal of the lower sash of the window and the brick wall from the sill to the floor, and by fixing a door to open outwards. As regards the provision of cross walls in the corridor subways, we agree that some protection of this sort would be advisable. We, therefore, suggest that a 4-in. wall should be erected across the subway leading from the male to the female side of the asylum, and that fire-proof doors should be placed at the foot of each of the stairways leading up from the subway." On the recommendation of the Committee, it was agreed to sanction the execution of the work suggested, and the matter was referred to the Works Committee to be dealt with. The Committee reported that the tar paving in many of the airing courts of the asylum was badly perished, and it was agreed to execute the necessary repairs at a cost of 386*l.*

Eastern and Western Hospitals—Internal Telephones.—It was agreed that a system of internal telephones should be installed in both these hospitals, in accordance with schemes prepared by the Engineer-in-Chief. The estimated cost is 280*l.* for the Eastern Hospital, and 300*l.* for the Western Hospital.

Supply of Electricity.—It was agreed to accept the following charges for the supply of electricity to the hospitals:—Hackney Borough Council, for the supply of electricity to the Eastern Hospital and Ambulance Station, at the rates of 4d. per unit for current for lighting purposes (subject to certain discounts), and 2d. per unit net for power purposes. Fulham Borough Council, for the supply of electricity to the Western Hospital and Ambulance Station, at the rate of 5d. per unit for an average consumption of 12 units per 8 c.p. lamp per annum; 4d. per unit for an average consumption of between 12 and 24 units per 8 c.p. lamp per annum; and 2d. per unit for all units consumed over and above an average of 24 units per 8 c.p. lamp per annum.

Western Hospital.—It was also agreed to enlarge the engineers' and carpenters' shops at this hospital at a cost of 250*l.*

Fountain Hospital.—It was decided to retain the building, known as the architect's office, and to treat it with fire-resisting material. Messrs. T. W. Aldwinckle and Son submitted an estimate of 165*l.* for the work.

The Student's Column.

ARCHES.—XXIV.

AS stated in Article XXIII., arch centring is built of different materials, and must always be specially designed to suit the conditions of every given case.

In the present article we describe and illustrate some types of arch centring commonly used, and also give examples from actual practice. As a matter of convenience, the following notes refer only, except where otherwise stated, to the construction of the separate ribs forming the chief members of the centring.

Solid Timber Ribs.—For small arches of low rise, the rib may be formed of two planks (as in Fig 100, where the arch is of 10 ft. span and the rise 1 ft. 4 in. The plank *a a* is 11 in. wide and 2 in. thick, while the plank *b*, of the same thickness, is 11 in. wide at the crown, and trimmed to suit the curve of the arch. The two planks are joined by cleats which are fastened by nails, as shown in the figure. Ribs of this kind should be placed about 2 ft. 6 in. apart, and carried on longitudinal timbers held in position by vertical posts, standing on planks laid in the earth, or otherwise supported. On the upper surfaces of the ribs the laggings are laid in position, as indicated in Fig. 100.

Built-up Timber Ribs.—For arches of 10 ft. to 30 ft. span with small rise, the rib is often formed of two or three thicknesses of short boards fitted and fastened together so as to follow the curve of the arch approximately, as in Fig. 101. The outer edges are then trimmed so as to be concentric with the intrados of the arch ring, leaving room for the attachment of the laggings. Such ribs are generally spaced about 1 ft. 6 in. apart, and supported by longitudinal rails and posts, as before described. The separate thicknesses of the ribs may be bolted, screwed, or nailed together according to circumstances, and sometimes it is advisable, for the sake of securing additional stiffness, to bolt steel coverplates over the joints, as shown in Figs. 102 and 103.

Built-up ribs possess great strength, and two examples given by Trautwine may here be usefully quoted.

In the first of these the centring was applied to a semi-circular arch of 35 ft. span, the ring being 2 ft. thick. Each rib consisted of two thicknesses of 2-in. plank, in lengths of about 6.5 ft., treenailed together so as to break joint. Each piece of plank was 12 in. wide at the middle, and 8 in. wide at each end, the top edge being cut to suit the curve of the arch. The treenails were of 1.25 in. diameter, and twelve of them were used to each length of plank. These ribs were placed 17 in. apart from centre to centre, and were steadied in position by bridging pieces, of 1-inch board, at each joint of the planks, or about 3.25 ft. apart. Headway for traffic being necessary under the arch, there were no chords to unite the opposite feet of the ribs. The ribs were covered with close board-lagging, which also assisted in bracing them transversely. As the arch approached about two-thirds of its height on each side—during construction—the ribs began to sink at the haunches and rise at the crown. This was rectified by loading the crown with stone to be used in completing the arch, which was then finished without further trouble.

In the second example, the centring was employed in the construction of an elliptical arch of 60 ft. span with a rise of 15 ft., the ring being 3 ft. thick at the crown and 4 ft. at the springing. Each frame of the centre was a simple rib 6 in. thick, composed of three thicknesses of 2-in. oak plank, in lengths varying from 7 ft. to 15 ft., to suit the curve of the arch, and at the same time to preserve a width of about 16 in. at the middle of each length and of 12 in. at each of its ends. The segments broke joints, and were well treenailed together with from ten to sixteen treenails to each length. These ribs (the ends of which were not connected by chords) were placed 18 in. apart, centre to centre, and were steadied in position by board bridging-pieces, 1 ft. long, at intervals of 5 ft. When the arch stones had been built to within about 12 ft. of each other near the middle of the span, the sinking of the crown and the rising at the haunches had become so great that it was thought necessary to insert pieces of 12-in. square oak at intervals which were wedged against the arch stones at their ends, thus relieving the centring of a strain which threatened its safety. The arch was then finished in sections between the timbers, which were removed one by one as the masonry was completed.

While centring with ribs of the construction here described is very strong, it is lacking in stiffness, and for this reason there is some risk that, owing to its flexibility, the stability of the arch may be endangered during erection, and that the adhesion of the mortar may be partly destroyed, thus leading to a permanent diminution in the strength of the completed arch.

Built-up ribs have been largely used in tunnel construction for spans varying from 20 ft. to 30 ft., precautions being generally taken to make sound joints, and to bolt the segments firmly together.

For a 25-ft. arch the timber segments should be of 3-in. plank in pieces 5 ft. 6 in. long, 14 in. wide at the middle and 8 in. wide at the ends, secured with ¼-in. bolts through the timber, and ¾-in. bolts through the steel coverplates and timber between them. The coverplates should be at least 14 in. long by 8 in. wide. Two thicknesses of 3-in. plank will be sufficient under ordinary circumstances, but if the earth pressure is considerable, as it often is in tunnel construction, three thicknesses should be used It is always desirable to connect the ends of the ribs by timber ties, which may be formed

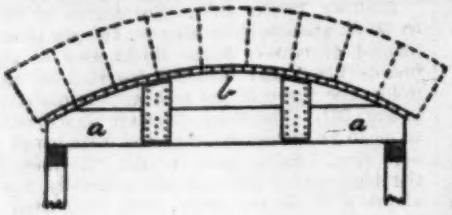


FIG. 100

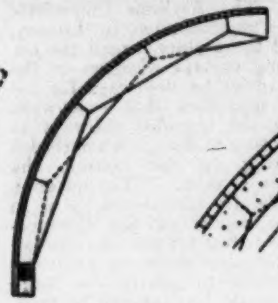


FIG. 101

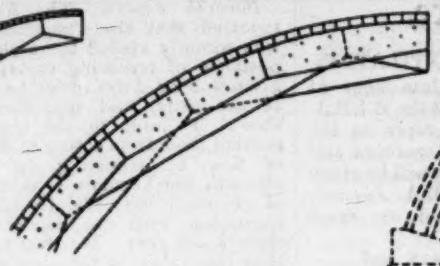


FIG. 102

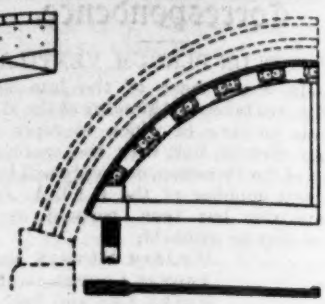


FIG. 103

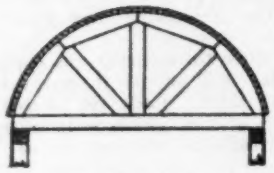


FIG. 104

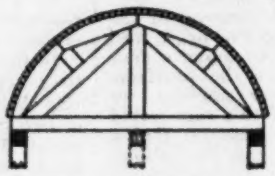


FIG. 105

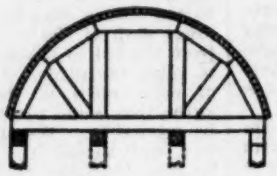


FIG. 106

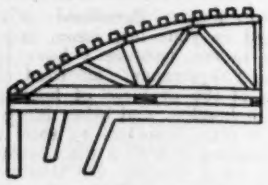


FIG. 107

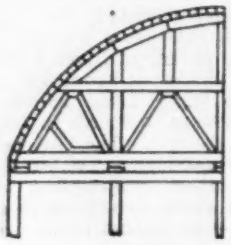


FIG. 108

FIG. 109

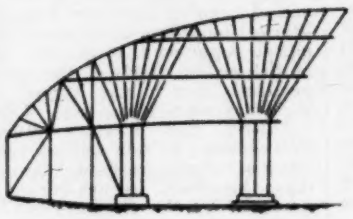


FIG. 110

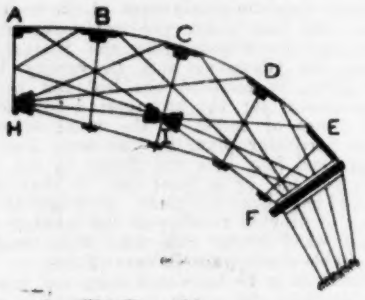


FIG. 111

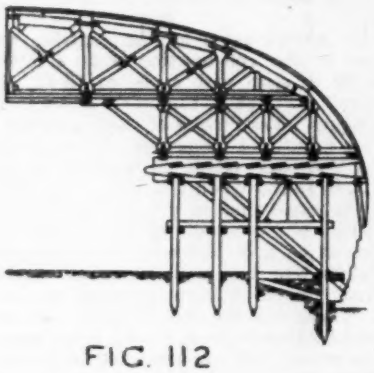


FIG. 112

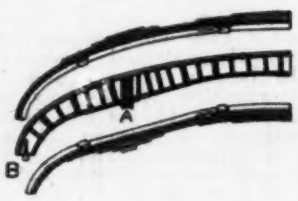


FIG. 113

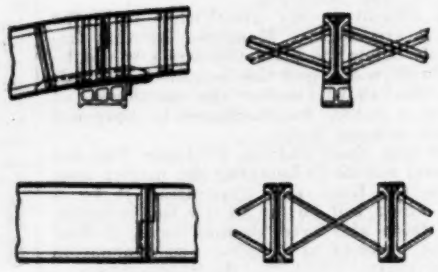


FIG. 114

by nailing two boards on each side of the ribs. Ties of this kind are useful in preventing any tendency of the ribs to spread in an outward direction and so to press against the masonry, thereby interfering with the subsequent striking of the centring. Such ties are also useful for keeping the ribs in form while they are being conveyed to, and placed in position.

Braced Timber Ribs.—By the addition of a horizontal chord and a vertical tie to the type of timber rib shown in Fig. 100, we have a simple type of braced rib as illustrated in Fig. 103, which represents the centring used for the construction of the Vosburg Tunnel on the Lehigh Valley Railway, U.S.A. It will be seen that the two ends of the rib are united by a timber chord formed of two planks between which and the crown is a vertical tie, the whole forming a simple but fairly rigid truss. The joints of the timber segments are secured by steel coverplates, as shown in the figure.

For the purpose of giving greater stiffness, the rib may be further braced, as indicated in Figs. 104, 105, and 106, or by any desirable modifications of these simple designs. The exact form of bracing for adoption is sometimes governed by the width of the passage required beneath the arch for constructional or other purposes. The rib in Fig. 104 is supported only at the ends, leaving a clear passage almost the full width of the span; that in Fig. 105 can be supported only at the ends, but sometimes it may be desirable to place a post in the middle, as indicated by dotted lines; and that shown in Fig. 106 may be supported at two intermediate points as well as at the ends. It may here be noted that as the masonry near the springing of a semi-circular arch is self-supporting, it can be laid up to a certain level without the aid of centring, hence the latter need not extend down to the springing. An illustration of this is afforded by Fig. 103.

For large spans, simple types of the braced rib do not afford sufficiently rigid support, and resort must be made to more elaborate forms of bracing, of which some diagrams are here given. The mechanical principles underlying the design of such trusses are fully discussed in numerous text-books on roof and bridge construction, and need not be entered upon in this series of articles.

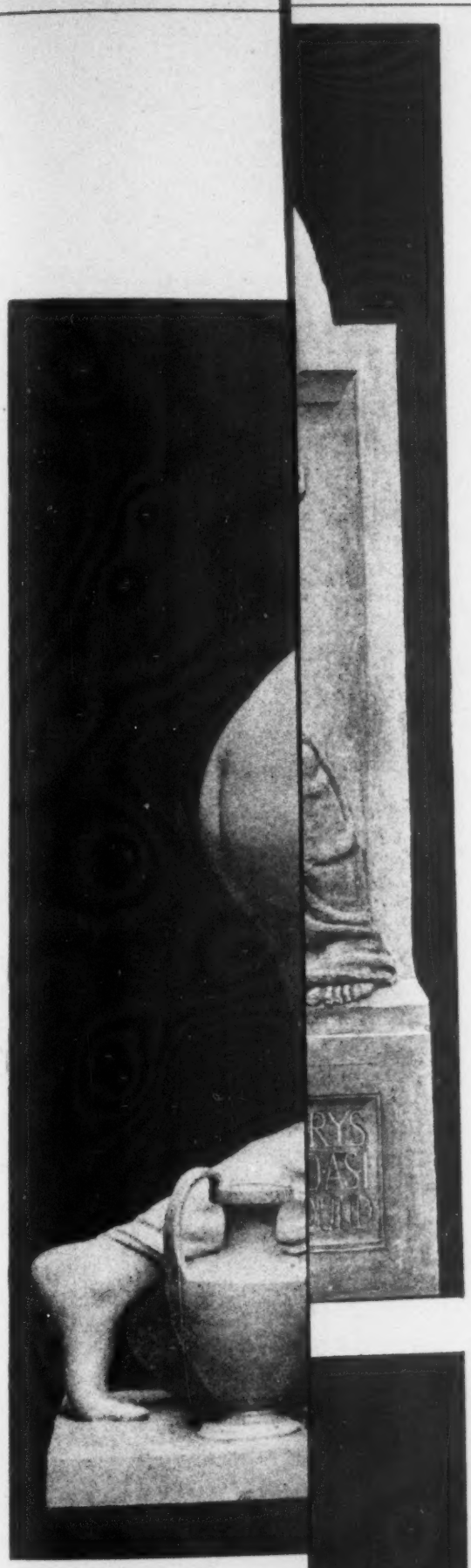
Figs. 107, 108, and 109 show three commonly-used trussed ribs, providing ample strength and rigidity. The rib represented in Fig. 107 affords a clear passage nearly the full width of the arch and for this reason may often be more convenient for adoption than the form shown in Fig. 108. Fig 109 represents the type of centring employed for the Pennsylvania Railway Bridge at New Brunswick, N.J.

Fig. 110 is a diagram of the centring designed by Sir Charles Hartley for the Grosvenor Bridge at Chester, in which most of the supports were struts radiating from iron shoes fixed on the top of the temporary stone piers, of which there were four in the length of the span. The struts were stiffened by waling pieces spaced at distances varying from 10 ft. to 12 ft. apart vertically, and the back pieces consisted of two thicknesses of 4½-in. planks.

Fig. 111 is a diagram of the centring employed for the erection of Waterloo Bridge. The centring consisted of inclined struts in pairs. Each joint in the back pieces A to E was independently supported by a pair of struts of its own, springing from the striking plate at F. At points where several of these struts intersected, as at H and I, they were connected by suitable cast-iron shoes, while at other points of intersection they were simply notched and bolted together. Additional stiffening pieces were added, as shown in the diagram. The striking plates were longitudinal and inclined, and were supported on struts springing from the stepped bases of the bridge piers.

Fig. 112 exemplifies trussed girder centring as used in the construction of London Bridge. In this case direct support was given for the distance of about one-fourth of the span, while across the middle half the rib was a diagonally braced girder of great stiffness.

Steel centring is sometimes used under conditions when timber would be unsuitable, or impracticable. The type of construction is well illustrated by the centring employed in connection with the King Edward VII. Bridge at Kew. Owing to the requirements of the Thames Conservancy, it was found necessary to make use of steel centring, which consisted of curved ribs, as represented in Fig. 113, which shows half the rib for the middle span of the bridge. The ribs were supported at the points A and B, and at two corresponding points on the other half of the span. Each rib was a curved girder, built up of steel plates and angles, having an average depth of 3 ft. 7 in., and a width of 1 ft. 4 in. The girders were delivered in five sections, two at each end being riveted up on the site, floated out on barges to the required positions, and then hoisted up to their temporary supports. The middle section was also floated out, hoisted up, and temporarily supported by projecting coverplates on the side sections, the remaining coverplates being afterwards riveted on.



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"THE DANCER": BY MR. BERTRAM MACKENNAL.

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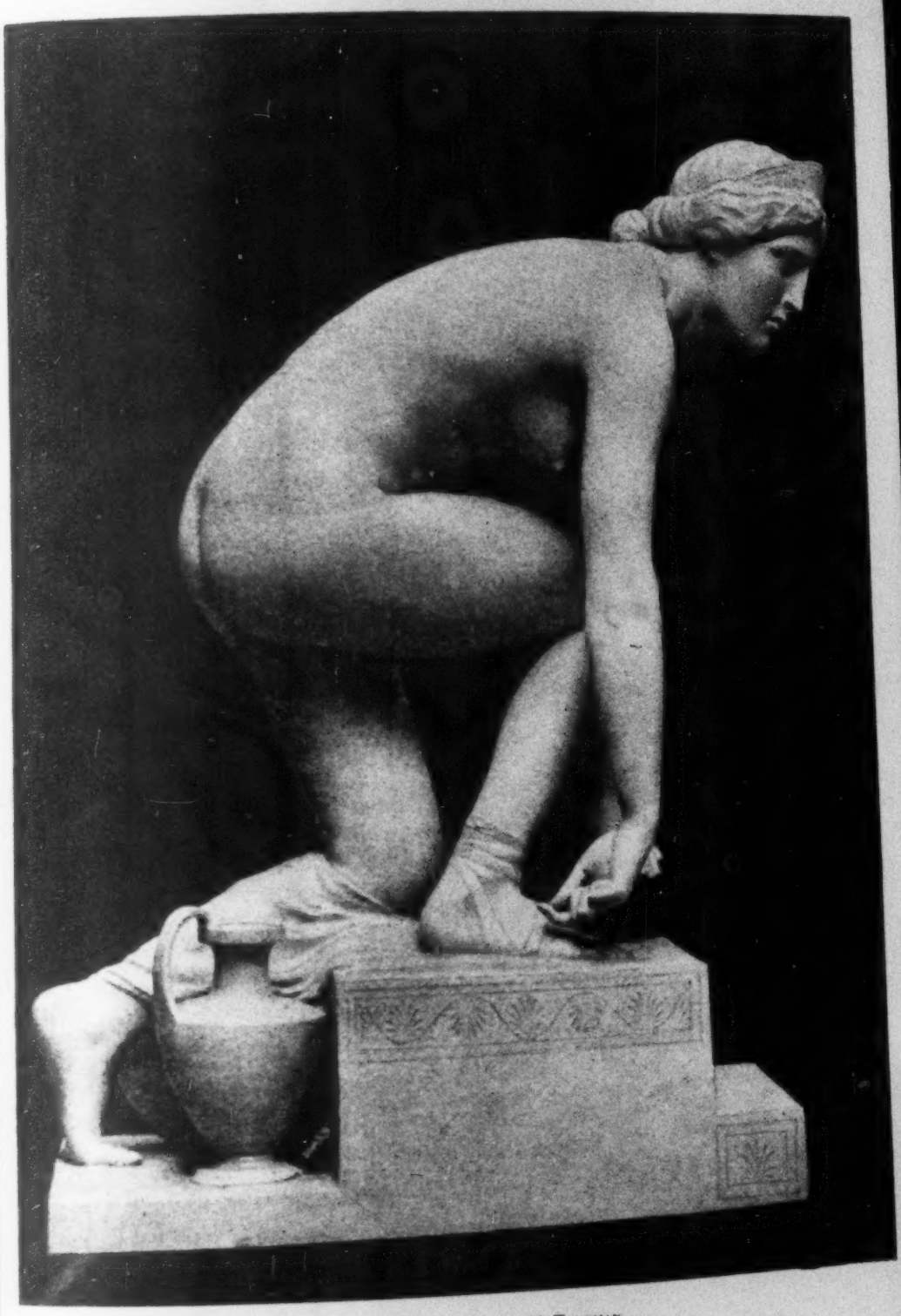

"THE SANDAL": BY MR. F. M. TAUBMAN.

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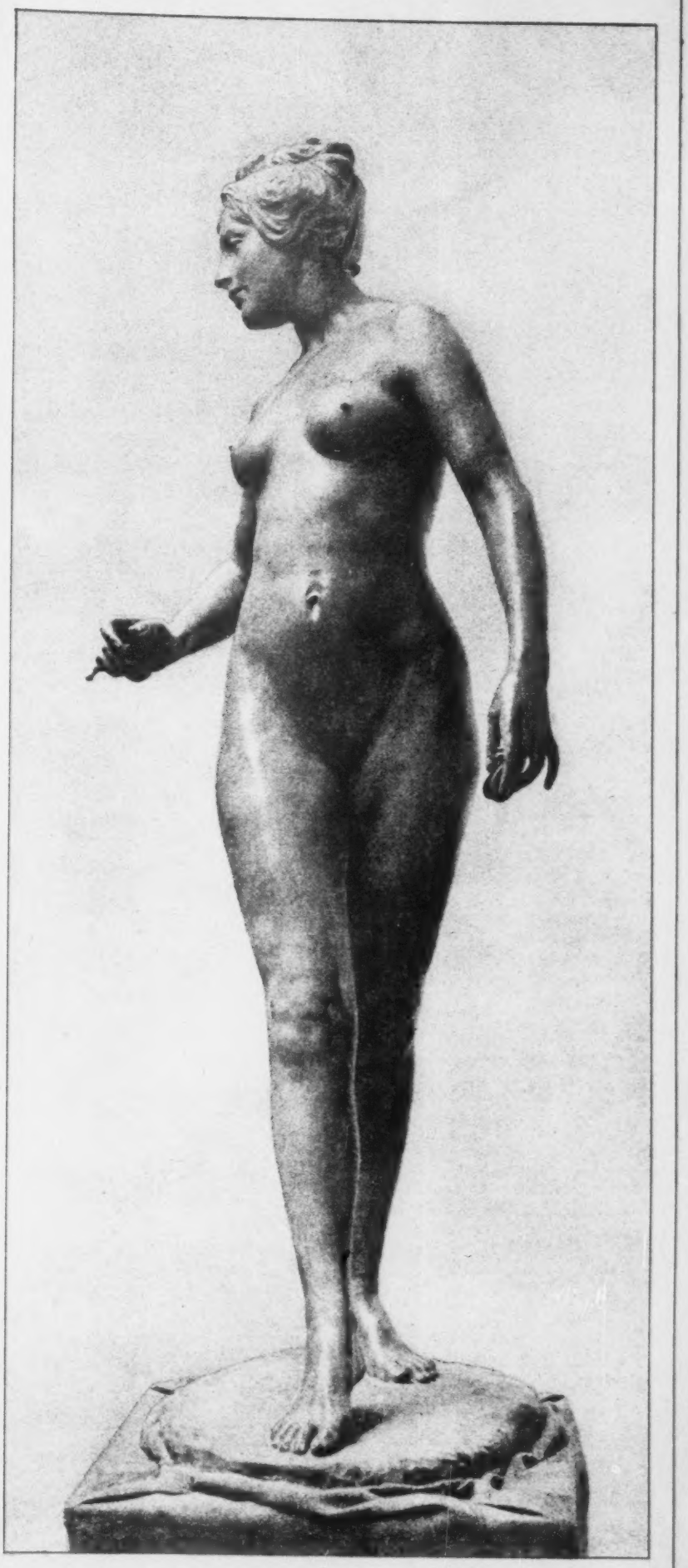
OF IMMORTALITY": BY MR. ALBERT TOFT.

ADNE": BY MR. HAROLD PARKER.



"THE DANCER": BY MR. BERTRAM MACKENNAL.

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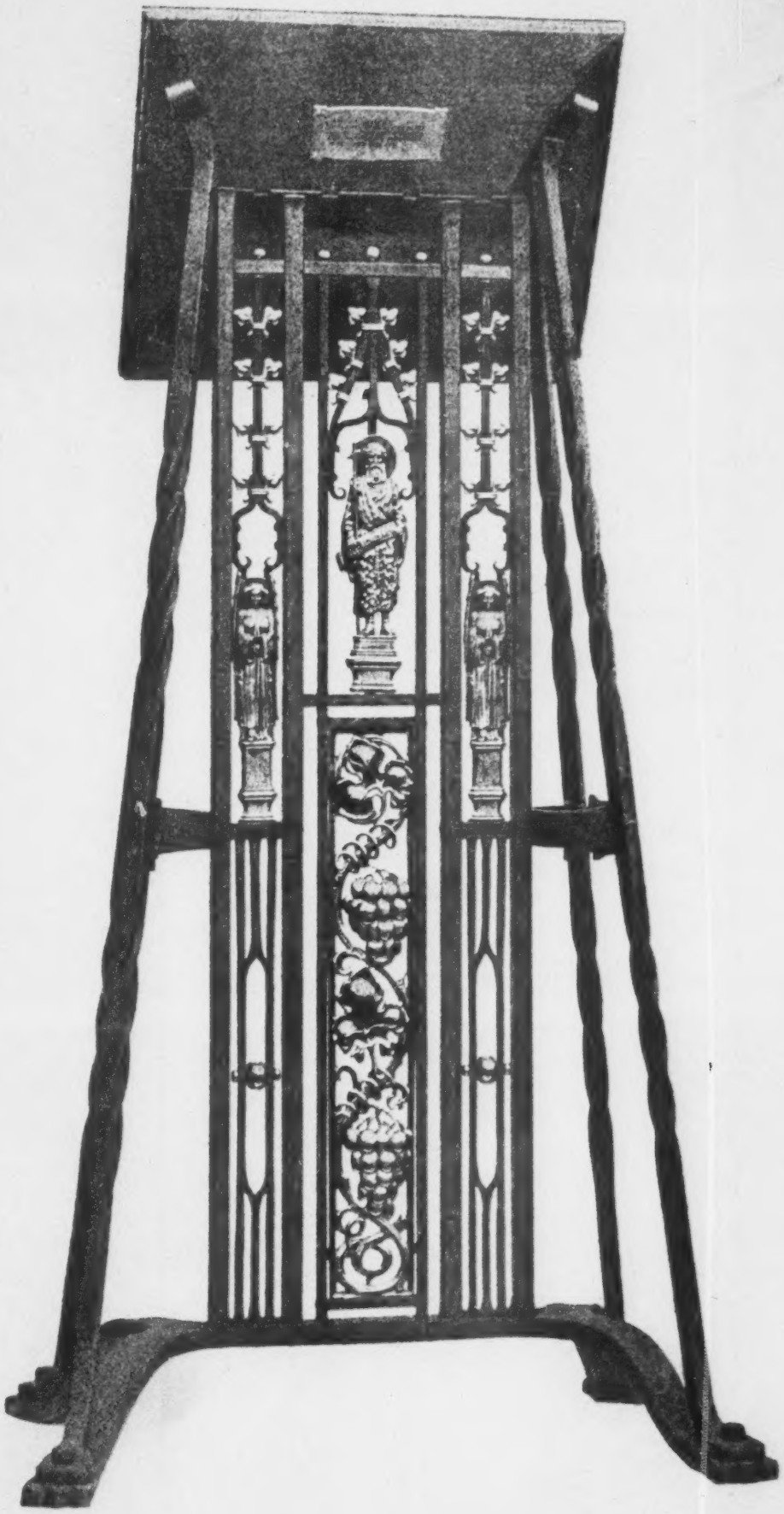
E ROYAL ACADEMY.

"LABOUR."—By Mr. Alfred Turner.

GROUP FOR STAIRCASE, LLOYDS REGISTRY.—By Mr. F. Lynn Jenkins.

"DANTE": STATUETTE.—By Mr. A. G. Walker.

SCULPTURE AT THE ROYAL ACADEMY.



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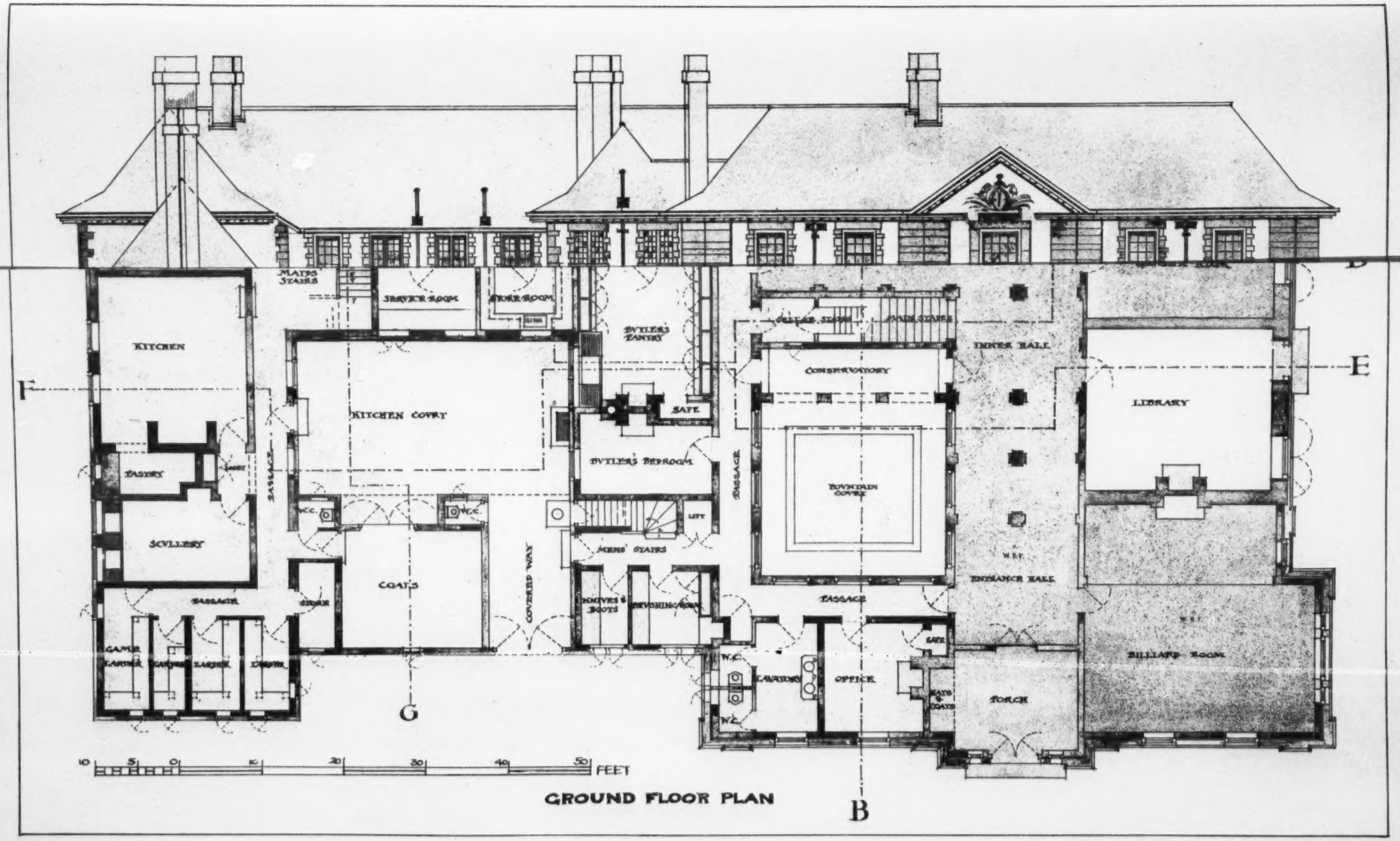
LECTERN FOR MINEHEAD CHURCH.—By Mr. Nelson Dawson.

SCULPTURE AT THE ROYAL ACADEMY.

"DANTE", STATUETTE.—By Mr. A. G. Walker.

"LABOUR."—By Mr. Alfred Turner.



GROUND FLOOR PLAN

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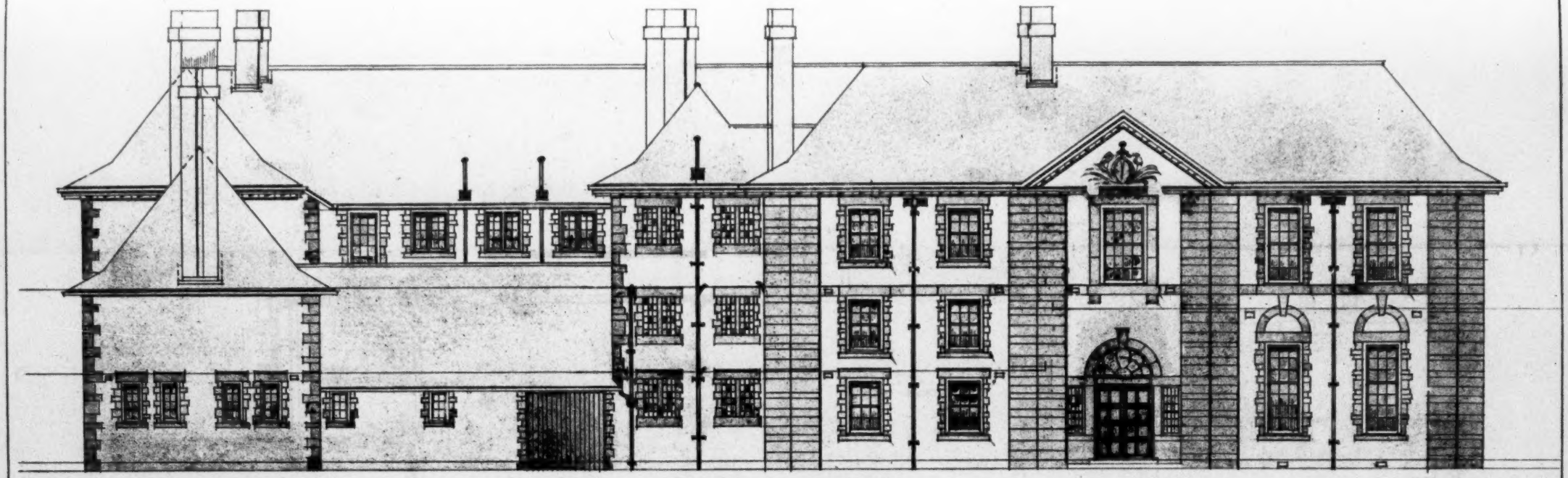
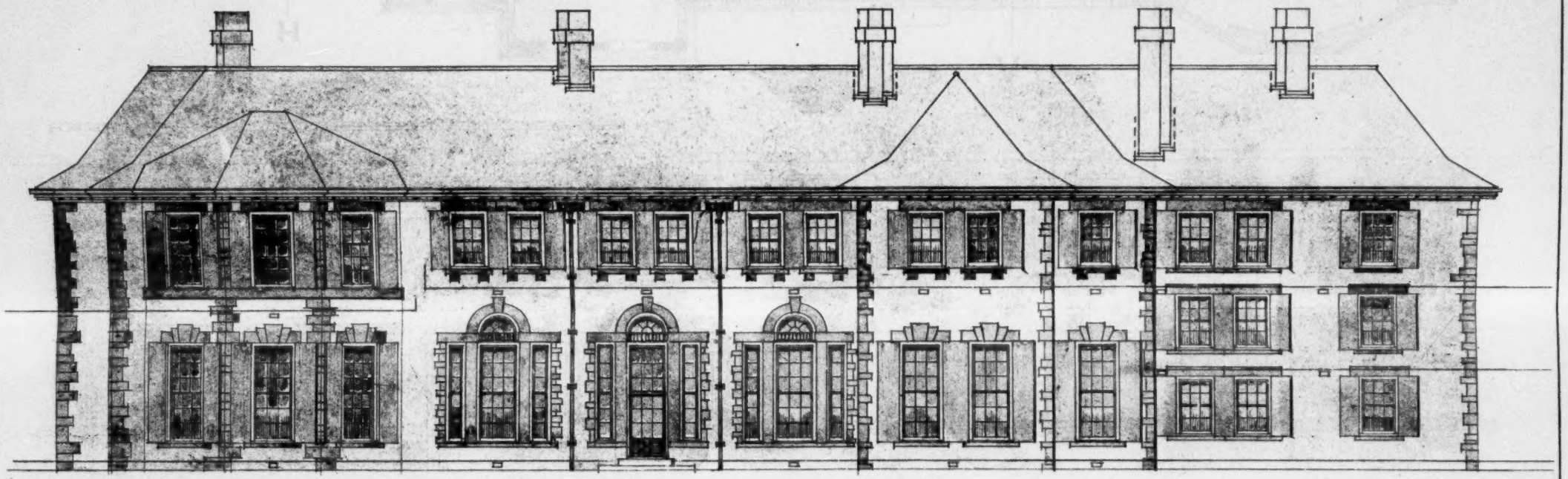
BURTON HALL, CHESHIRE.—Messrs. Nicholson & Corlette, Architects.

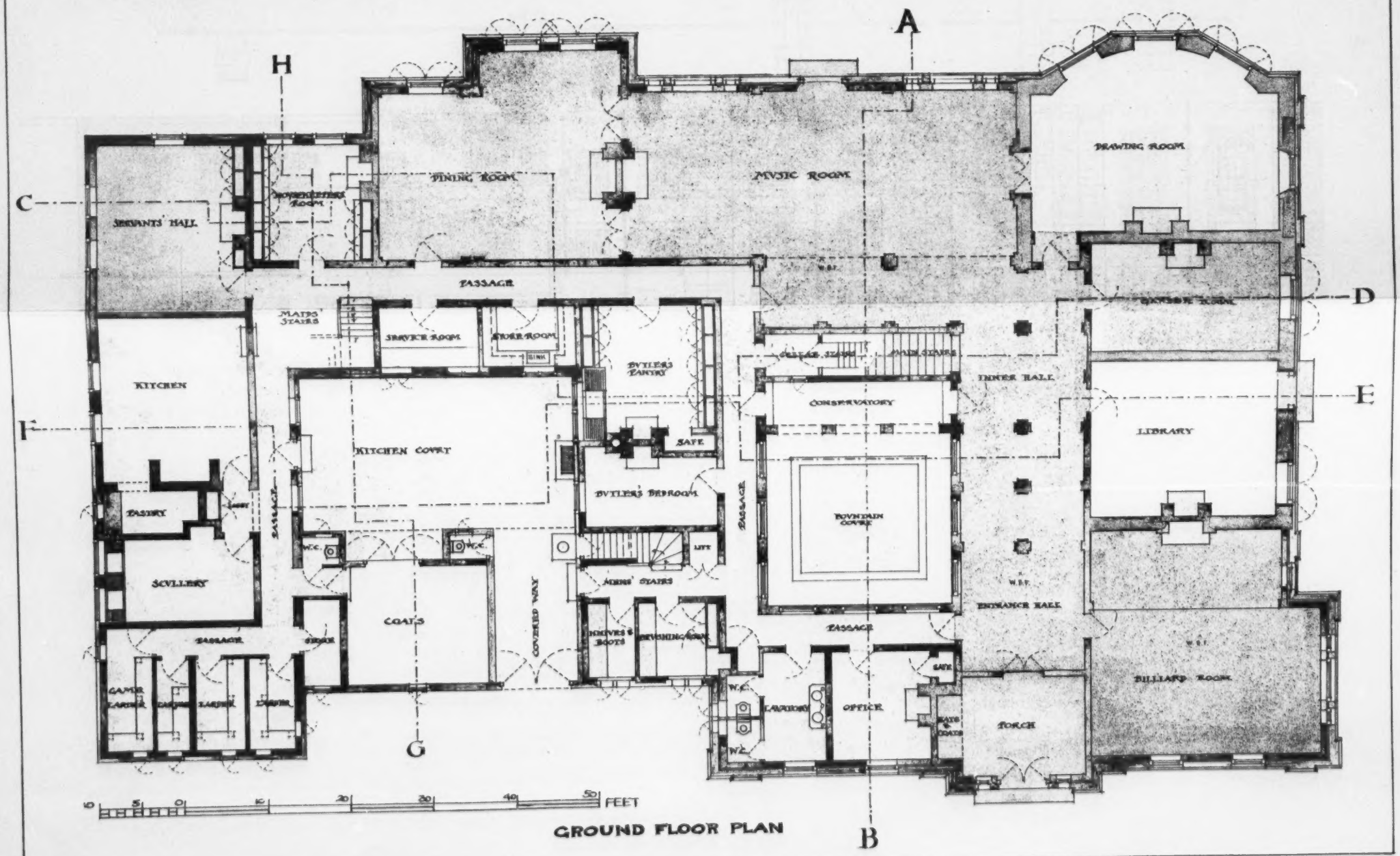


NORTH ELEVATION



SOUTH ELEVATION

SOUTH ELEVATION



GROUND FLOOR PLAN

"INK-PHOTO" SPRAGUE & Co LTD 4 & 5 EAST HARDING STREET, FETTER LANE, E.C.

BURTON HALL, CHESHIRE.—Messrs. Nicholson & Corlette, Architects.

Framewood, Stoke Poges

Gerald C. Horsley, Architect

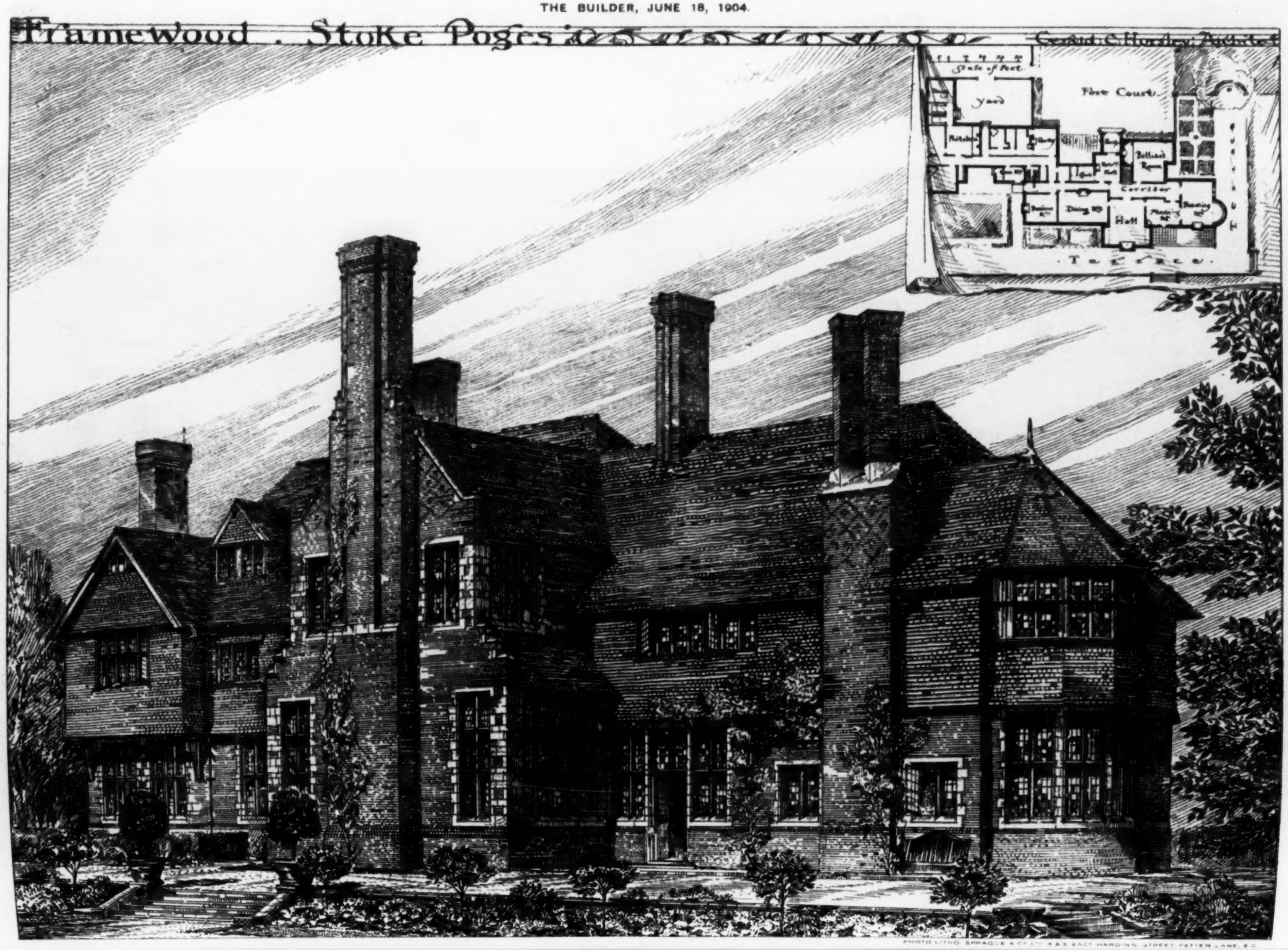
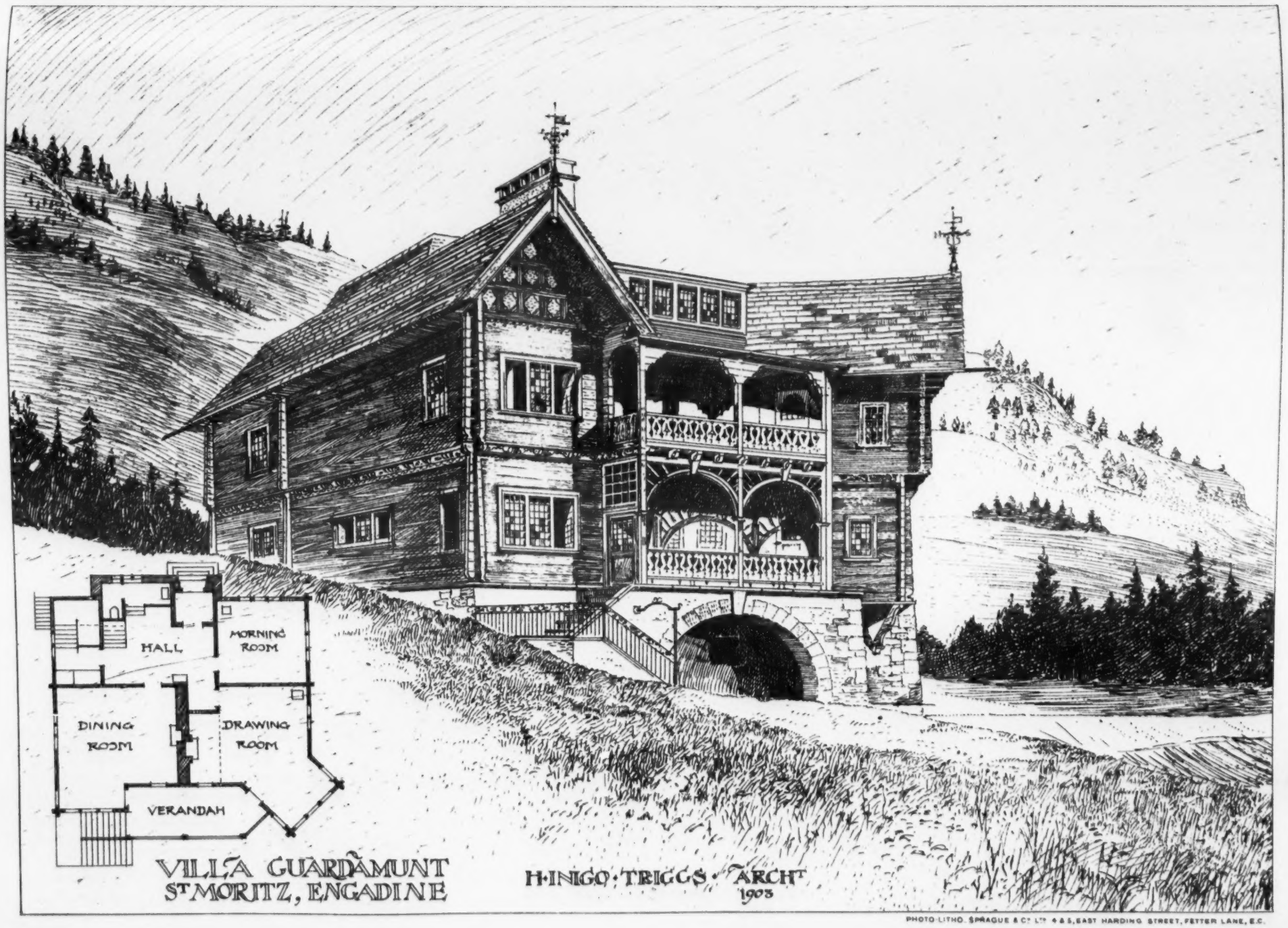


PHOTO-LITHO SPRAGUE & Co LTD 4 & 5 EAST HARDING STREET, FETTER LANE, E.C.



VILLA GUARDAMUNT
ST MORITZ, ENGADINE

H·INIGO·TRIGGS·ARCHT
1903

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The details of the top and bottom plates of the flanges are diagrammatically represented in Fig. 113.

The width of the bridge between the parapets is 55 ft., and eleven ribs were employed beneath each arch, spaced 5 ft. 7 in. centre to centre. Details of the bracing between the ribs are shown in Fig. 114, where the two upper sketches relate to the bracing at the intermediate supports, such as at the point A in Fig. 113, and the two lower sketches relate to the bracing at the stiffeners elsewhere along the ribs. The weight of each rib for the centre span was twenty-three tons.

It will be seen that when completed the centring practically constituted a steel arch of great strength and stiffness, the ends being carried at the springings by timber framework built up on the footings of the piers. The ends of the ribs rested upon a 14-in. square horizontal timber, between which and the top timber of the framework hard wood wedges were inserted in pairs beneath each rib. The intermediate supports below the points A and B (Fig. 113) consisted of two rows of piles placed 9 in. apart, these piles being driven about 7 ft. below foundation level. Cast-iron saddles were bolted to the ribs at the point A, so as to give a horizontal bearing surface of adequate area, and between these saddles and the top timber of the piling, wedges and sand boxes were placed. These sand boxes will be described when reference is made to the striking of arch centres.

After the ribs had been finally fixed in position and braced together, a 4-in. timber lining was bolted to the top flanges to correct any slight irregularities in the curvature of the centring, and across this lining, laggings of 8-in. by 4-in. timbers were spiked.

For the purpose of obviating any risk of undue stress or of opening at the bed joints of the arch, in consequence of deflection of the centring, some of the joints were left dry, small timber wedges being inserted to maintain the spacing, and when the arch had been completely built these joints were filled with mortar.

OBITUARY.

MR. BROOKER.—We have to announce the death, very suddenly, on June 6, at East Dulwich, of Mr. James William Brooker, aged fifty-one years, of No. 13, Railway-approach, London Bridge, S.E., and of "Durlstone," Brockley Park, architect and surveyor. Mr. Brooker was elected an Associate of the Royal Institute of British Architects in 1887, and a Fellow in 1892; he also held a certificate of competency to act as an official surveyor. Amongst his chief professional works during the past twenty years or so are comprised the following:—Buildings in Finsbury-pavement for the Finsbury Estates Company, in 1883-4; residences in Vine Court-road, Sevenoaks; business premises in Denman-street, London Bridge, and (Nos. 173-4) in High-street, Shoreditch; houses in Grove-vale, East Dulwich; Dock-street, E.; Half Moon-lane, Herne-hill; Brockley-rise; Lewisham; and elsewhere in the southern suburbs; buildings on the Sayer-street and Lion-street area, Walworth; ne Penge New Tabernacle, with alterations and improvements, for the trustees of the chapel in Maple-road, Penge; and the Imperial Hall in Grove-vale, East Dulwich, for the Hall Finance Syndicate. Mr. Brooker was employed in the laying-out for building purposes of various properties in Dulwich and the vicinity, and made the plans and designs for the rebuilding of several large hotels and public-houses, amongst them being the "Coach and Horses," in Clerkenwell; the "Duke of Devonshire" hotel, with extensive additions, in Balham High-road; the "Spanish Patriots," in Lower Marsh, Lambeth; the "George," on Tower-hill, E.C.; the "Pagoda," in Bermondsey New-road; and the "Hop Pole," in Bridge-road, Hammersmith.

MR. J. Y. MCINTOSH.—The death is reported of Mr. John Y. McIntosh, architect, at Sparkbridge, near Greenodd, in Crake Valley, at the age of fifty-four. Mr. McIntosh had been architect for a number of the schools in the borough, schools at Ulverston, the buildings belonging to the Barrow Co-operative Society, Ltd., and for numerous minor buildings. His latest work was the Hotel Majestic, near the General Post Office, which is nearing completion.

NEW RECREATION GROUND, NOTTINGHAM.—The new Radford recreation ground, at Nottingham, was opened recently. The grounds have been laid out from the plans of Mr. F. B. Lewis, the City Architect, and the cost of the work has been about 5,000*l.*

GENERAL BUILDING NEWS.

UNITED METHODIST FREE CHURCH AND SCHOOLS, SEVEN KINGS, E.—The competitive designs, submitted by Messrs. George Baines and R. Palmer Baines, of London, have been adopted for this church and schools, and the first portion of the building, which embraces the nave of the church, including tower and temporary apse, etc., is to be proceeded with at once; also the school-room and two class-rooms from a portion of the scheme. The estimated cost of this first portion is 3,641*l.* The materials are to be facings in red brick, with dressings in Bath stone. The tender submitted by Mr. C. North, which amounts to 3,488*l.*, has been accepted.

WESLEYAN CHAPEL, DAVYHULME.—On the 11th inst., the stone-laying ceremony took place in connexion with the new Wesleyan chapel which is being built in Brook-road. The chapel is to cost 4,500*l.*, and provide seating accommodation for 700 worshippers. Land has been secured in the rear for a lecture hall and class-rooms. Externally the building is faced with Accrington bricks, the mouldings and dressings being in Accrington terra-cotta. Messrs. Smith and Matley, Manchester, were the architects.

NEW MISSION HALL, WORCESTER.—The new mission hall, which has been erected in Victoria-avenue, Worcester, was opened recently. The new building, which is designed in the late Gothic style, has been erected of red brick with white stone facings. The plans were prepared by Mr. A. Hill Parker, architect, and the work was carried out by Messrs. Bromage and Evans, contractors.

WESLEYAN MEMORIAL HALL, DENBY DALE.—A new Wesleyan Sunday School and Queen Victoria Memorial Hall was opened on the 11th inst, at Denby Dale. The building, which is estimated to cost 4,000*l.*, will accommodate 600 persons. The style is Renaissance, and the principal entrance is to be surmounted by a statue of Queen Victoria. The work has been carried out from plans prepared by Mr. G. Moxon, architect, Barnsley.

CLERGY HOUSE, SMALL HEATH.—A new clergy house has been erected adjoining St. Aidan's Church, Herbert-road, Small Heath. The building is three stories high, and is built of red brick, with free-stone dressings. Mr. Arthur Dixon is the architect, and the total cost will be about 1,600*l.*

SCHOOL, DUDLEY.—A new upper standard school at Blower's Green, Dudley, has just been opened. The erection and complete equipment of the school will cost between 16,000*l.* and 17,000*l.*, and the architects were Messrs. Barrowcliff and Allcock, of Loughborough, whose plans were selected in competition by Mr. T. J. Bailey. The builder was Mr. Mark Round, of Dudley. The school has accommodation for about 500 boys and girls. Externally a simple Renaissance treatment has been adopted, the main building being faced with bricks with terra-cotta dressings. It has been built upon the central hall system. The hall, which is 62 ft. by 25 ft., is lighted from the roof, and has a wide balcony on the level of the first floor. Twelve class-rooms open into this hall, six upon the ground floor for boys and the same number on the first floor for girls. Cloakroom and lavatory accommodation is provided for each department, and separate sitting-rooms for male and female teachers in convenient positions. Two separate class-rooms for the training of deaf mutes are situated at the north end of the building and are specially arranged for the teaching of lip-reading. They have separate entrances, playgrounds, etc., and form a distinct department, though connected for supervision by a corridor with the central hall. Above these two class-rooms is an art-room, 42 ft. by 18 ft., lighted exclusively from the north side. At the south end of the site a two-story building attached to the main building contains the rooms devoted to manual training and the teaching of cookery and laundry work. Advantage has been taken of the rapid fall of the ground to place the manual training room at the level of the basement, but still with windows clear of the ground. This room, which is 70 ft. by 22 ft will be fitted up with benches, lathes, and other machinery for metal work, and provides all necessary storage accommodation. Above the manual training room, and connected by a covered way, are the cookery and laundry rooms. Above the cookery and laundry department, chemistry and physics laboratories can be added at the level of the first floor, and there is also provision made for a future extension of class-rooms on the east side. At the north end of the site is the caretaker's house, with separate yard and garden. The buildings throughout are fitted up with the electric light.

SCHOOLS, GREYSTONES, YORKSHIRE.—New elementary day schools at the corner of Greystones-road and Tullibardine-road, Sheffield, have just been opened. The building is to accommodate 540 children, and at present contains a central hall, 93 ft. by 34 ft., round which are grouped three class-rooms for sixty scholars each, space being left at one end for three additional class-rooms should extension be necessary. The class-rooms open into the hall, and glazed screens are inserted between them. The hall is divided by a glazed partition into two equal portions, one being used in connexion with the mixed boys' and girls' class-rooms, and the other in connexion with the infants' class-rooms. The lower portion of the screen is sliding. There are four entrances, one for girls, another for boys, and two for infants. There are cloak-rooms for each department, and over each is placed a teachers' room. Advantage has been taken of the slope of the ground to obtain a covered play shed under the class-rooms on the Tullibardine-road front. A caretaker's house is also provided. The buildings are faced all round with rock-faced stone from the Bole Hill quarries, with ashlar stone dressings from Mr. Turner's quarries at Stoke. The whole of the internal woodwork is pitch-pine, varnished. The buildings were designed by the late Mr. W. F. Hemsoll and Mr. H. L. Paterson in conjunction, and the work has been carried out under the supervision of Mr. Paterson, while Mr. F. Ripley has acted as clerk of works. The cost is 10,795*l.*, exclusive of site. Messrs. Ash, Son, and Biggin are the general contractors. The heating is by hot water.

MARINE SCHOOL, CLONTARF.—On the 8th inst. the Lord Lieutenant of Ireland performed the opening ceremony of the new Hibernian Marine School, Seafield-road, Clontarf. The school accommodates fifty boys, who will be trained for the Royal Navy or the merchant service. The building was commenced eighteen months ago, and cost 7,500*l.* The architect was Mr. R. Caufield Orpen, the contractor being Mr. R. A. Millar. The internal plumbing and sanitary arrangements and hot water supply throughout the building have been carried out by Messrs. Maguire and Gatchell.

NEW PARISH SCHOOLS, DUBLIN.—The foundation-stones of the new parish schools, which are to be erected at Dolphin's Barn, Dublin, were laid recently. The new buildings will consist of boys' and girls' schools, with master's residence. Accommodation has been provided for 100 boys and a like number of girls. Each school consists of a school-room, 30 ft. long and 22 ft. wide, and a class-room, 17 ft. by 14 ft. The school-rooms are lighted on both sides, and the class-rooms at the ends and sides. The cloak-rooms to each school are to be 14 ft. by 10 ft. The heating will be by hot water, but fireplaces are provided in each school and class-room. The materials generally are brick for the walling, with Portmarnock facings; the roofs will be covered with Bangor slating; the floors of the school-rooms are to be of wood, laid solid; the passages, cloak-room, etc., being tiled. The total cost will probably exceed 3,200*l.* Of this sum 700*l.* will be expended in the erection of the master's residence. The schools proper will cost about 2,500*l.* (this includes the price paid for the additional site). The architect is Mr. J. Franklin Fuller, F.S.A., Dublin, Mr. John Pemberton, Dublin, being the builder.

SCHOOLS, PONTLOTTYN.—New schools have been erected on the New-road, at Pontlottyn. The contractor was Mr. J. Lewis, Caerphilly, and the architects, Messrs. James and Morgan, Cardiff. The building, which has been erected as a boys' and girls' school, in separate departments, provides a total available accommodation for about 800 scholars. The cost of the buildings is about 14,500*l.*

SCHOOL, SHEFFIELD.—The new department for infants at Western-road Council School, Sheffield, was opened on the 13th inst. Messrs. Holmes and Watson are the architects. There are entrances from Western-road and Warwick-street, into the playgrounds. The buildings are faced externally with rockies from Bole Hill Quarries, and the ashlar from Matlock. The schools are heated on the low-pressure hot water system. There is a large asphalted playground, with covered playshed, in which are drinking fountains. The out-offices are lined with glazed bricks, and the floors are of blue stone. The contract has been carried out by Mr. William May, of Walkley.

AMBULANCE DRILL HALL, ACCRINGTON.—A new ambulance drill hall has been erected in King-street, at a cost of 2,500*l.*, and was opened on Saturday, June 11, by General Baden-Powell. The whole of the premises are on the ground floor, and comprise the hall, 69 ft. long by 56 ft. wide, with rooms at each end for officers, men, and storekeeper, and a lecture-room. Lavatories for both sexes are provided, and the whole of the premises are heated by hot water, and lighted by electricity and gas. The ambulance van-house is placed next the front entrance, and arranged so that the van can be run into the drill hall for practice in loading and unloading. The buildings are of

brick and terra-cotta, and the floors are of maple blocks and tiles. All the walls are plastered and painted, and the woodwork of pitch-pine, varnished. The architects are Messrs. Haywood and Harrison, of Accrington and Lytham.

NEW POLICE-STATION, ASHTON.—The new police-station at Ashton, which has been erected in Old-road, was opened recently. The premises were designed by the County Architect, Mr. Henry Littler, and are in the Gothic style. The bricks are from the Huncoat Plastic Brick and Terra-cotta Company, and the stone is from the Darley Dale quarries. The interior glazed bricks were supplied by Messrs. Shaw and Co., Blackburn. The stonework was erected by Mr. W. Winnard, Wigan, and the plumbing and painting were carried out by Messrs. W. Gaskell and Sons, Wigan. Mr. Peter Pennington, Ashton, was the contractor, and Mr. T. Parker was the clerk of the works. The hot-water system, by means of which the buildings are heated, has been installed by Messrs. A. Seward and Co., Lancaster.

PROPOSED SOLDIERS' HOME, SHEFFIELD.—It is proposed to erect a new Soldiers' Home on a site at the corner of Langsett-road and Hammerton-road. The new site is considerably nearer to Hillsborough Barracks than that on which the present home stands. The new home is to cost 3,000*l*., and plans for it, prepared by Mr. G. M. Wilson, architect and surveyor, have been accepted.

PROPOSED REFUSE DESTRUCTOR, FELLING, NORTHUMBERLAND.—On the 25th ult., at the Council Offices, Felling, Mr. M. K. North, M.Inst.C.E., held an inquiry, on behalf of the Local Government Board, into a proposal of the Felling Urban District Council to borrow the sum of 11,000*l*. for the provision of a refuse destructor on a site adjoining Stoneygate-lane. Mr. Bolam, Clerk to the Council, explained that hitherto the refuse had been used for levelling-up purposes. The Council unanimously decided to erect a destructor. The estimated population of Felling and district, including Pelaw, was 24,200, and the ratable value of 65,751*l*. The site, consisting of 2½ acres of land, had been obtained from the Ecclesiastical Commissioners. Mr. Dykes, the engineer, explained the plans.

GENERAL HOSPITAL, NORTHAMPTON.—New wings have just been opened at this hospital by the Lord Lieutenant. The new buildings are erected of white brick, with stone facings. Both buildings, whilst distinct from the future administrative department, have communication with it on every floor. The new erections consist of two pavilions of three stories each, connected with each other by a glass-covered corridor, running east and west, which is joined at right angles by a central corridor leading directly off from the main hall of the old building. From the corridor a subway to the kitchen has been constructed, and along this has been laid a tram-line to enable food to be easily and quickly distributed to the wards. Containing altogether 150 beds, one block is allocated to male patients and the other to females, the arrangement and provision being identical in either case. The three floors are practically identical in each of the pavilions. The large wards on the ground floor are devoted to surgical cases, and the only particular in which they vary from those above them is that the flooring is of terazzo mosaic instead of teak wood. The walls are finished with Keen's cement and Ripoline. Between every bed an electric light has been suspended, electric fans for the extraction of impure air from the wards have been fixed, and electric foot warmers are provided. The bath-room and offices are separated from the far end of the wards by cross-ventilated passages, and outside each ward is a verandah. From each of these balconies descend iron staircases for use in case of fire, whilst at the other end of each floor, from the main staircase, are covered fireproof bridges connected with the old buildings, and these can be utilised in case of similar emergency. Each block has been furnished with a lift, in which patients will be removed and the food distributed to the different floors. Before reaching the chief ward, there are several other rooms opening off from the main corridor of each floor. These include a four-bedded ward, intended largely for convalescents, and a nurses' duty room. There is also a single-bedded ward, minor operating room, ward kitchen, and rooms for patients' clothes, linen, pantries, and coal stores. The architect for the scheme is Mr. F. W. Dorman, with Dr. Greene acting in an advisory capacity; whilst the new building has been carried out by Mr. H. Martin, J.P.; Messrs. Lee and Warren have been responsible for the electric lighting installation; and Mr. Ambrose Marriott, Higham Ferrers, for the heating system; while the floors have been especially polished by Ronuk, Ltd., Brighton.

LIBRARY, CLITHEROE.—The plans for the proposed new Carnegie Library for Clitheroe have been approved by Mr. Carnegie. The designs for the building have been prepared by Messrs. Butterworth and Duncan, architects, of Rochdale. The cost of the building will be 3,000*l*., and the site, which is in the centre of the town and adjoins the Town Hall, has cost the Corporation close upon 2,000*l*. Accommodation will be found in the building for a library of 15,000 volumes, with committee, reading, and students' rooms.

ADDITION TO ECCLESALL WORKHOUSE, SHEFFIELD.—A new block of buildings has been erected for the old and infirm inmates of the Ecclesall Workhouse. It is built of Stoke Hall stone, and is 200 ft. long, and in the centre is 22 ft. wide. Accommodation is provided for 100 inmates. There are four day-rooms, eleven bedrooms, lavatories, bathrooms, attendants' and store rooms, and kitchen. The floors are generally of wood, with marble terrazo paving in the lavatories, bathrooms, and corridors. Keith's high-pressure incandescent gas lighting apparatus has been installed. The contract for the building was let to Messrs. John Vassey and Son for 7,500*l*., and the total cost, including furniture, is estimated at 8,500*l*. The architects were Messrs. W. H. Lancashire and Son.

DOGS' HOME, LIVERPOOL.—The new premises of the Liverpool Temporary Home for Lost and Starving Dogs was recently opened. The site of the new buildings abuts on the Wavertree Park, and the total cost of the work has been about 2,000*l*. Mr. F. Brice Hobbs, architect, designed the buildings, Mr. Isaac Dilworth being responsible for the erection of the kennels and offices.

BATHS, CAMBERWELL.—The foundation-stone of the municipal baths in the Old Kent-road was laid recently by the Mayor of Camberwell (Mr. H. R. Taylor, J.P., L.C.C.). The buildings occupy a site at the corner of Marlborough-road, in the Old Kent-road, and the accommodation provided is as follows:—Two swimming baths, first and second class, each with a water area of 75 ft. by 30 ft.; thirty men's first-class slipper baths; forty-four second-class, with five rain douche and spray baths; eight ladies' first-class and sixteen ladies' second-class slipper baths, and six rain douche baths. A Russian vapour bath, which will accommodate nine persons at one time, is provided for the second-class bathers. For the first-class bathers there is a Turkish bath to accommodate twelve persons at one time, with plunge bath attached. The public wash-house provides accommodation for forty-six washers, and tanks to store 60,000 gallons of cold water are provided over the wash-house. A feature of the plan is that the first-class swimming bath has been arranged, having in view the use to which it will be put for ordinary bathers and swimming entertainments in the summer, and, when floored over, for use as a public hall in the winter. A separate entrance, with crush halls, cloak-rooms, with artistes' rooms at the platform end, will be arranged. A well has been sunk to provide water for the establishment, and has been tested to yield from 12,000 to 16,000 gallons per hour. The estimated outlay upon the establishment, including the cost of engineering, engines, pump for well, and electric light plant, is 55,000*l*. The gold lettering on the foundation-stone was voluntarily executed by Mr. Nathaniel Hitch, who is executing the carving in the building. Mr. A. N. Coles was the builder, and Mr. E. Harding-Payne was the architect.

ISOLATION HOSPITAL, WHARFEDALE, YORKSHIRE.—The new hospital which has been erected at Menston by the Wharfedale Union Isolation Hospital Committee for the treatment of infectious diseases was opened on the 1st inst. The hospital, which has been erected from the designs of Messrs. Blackwell and Thompson, architects, of Leicester, is situated just off the main road to Burley-in-Wharfedale, and consists of seven distinct blocks of buildings, which, with the exception of the porter's lodge and the administrative block, are all of one story. The scarlet fever block of two wards provides accommodation for fourteen to twelve beds respectively, whilst the typhoid fever block has ten beds. The isolation pavilion provides for six beds, and there is also a laundry, stable, and boiler-house. The administrative block provides accommodation for matron, nurses, and doctor's dispensary, with servants' bedroom on the first floor. The total cost of the building and site is 17,793*l*.

IMPROVEMENTS TO THE STATION HOTEL, PERTH.—The improvements which have been carried out in connexion with this hotel have now been completed. The contractors for the work were Messrs. Thomas Leith and Co., Ltd., of Perth, while the furniture and furnishings are supplied by A. Gardiner and Son, Glasgow. The plans were prepared by Mr. A. G. Gordon, the North British Railway Company's architect, under whose supervision the work was carried out.

CHILDREN'S CONVALESCENT HOME, FILEY, YORKSHIRE.—The opening of the Rotherham and District Children's Convalescent Home at Filey took place a short time ago. The new building has been erected from the plans of Mr. J. E. Knight, architect, Rotherham.

CONSUMPTION HOSPITAL, LIVERPOOL.—A new hospital for consumptives is now in course of erection in Mount Pleasant, Liverpool. The new building will be in two distinct parts—one for patients, and the other for administrative purposes. It will have accommodation for fifteen males and fifteen females, and there is a third block for out-patients. On the ground floor is a day-room for the women, and a day-room and smoke-room for the men, with a dining-room midway between the two, all facing the south. There are doctors' rooms, lavatories, etc. The first floor contains two dormitories and two single rooms, with a flat roof adjoining. Centrally placed is the nurses' duty room, and on the second floor there are eight single sleeping-rooms. There is accommodation for seven nurses in the administrative block, and a servants' room also. Verandahs will be provided. The building is of buff terra-cotta, of varying shades, from the Bispham Hall Company, Orrell, whilst red Accrington bricks have been used. There are fire-proof floors throughout, and the building is lighted with electricity. The architects are Messrs. Grayson and Ould, Liverpool, and the contractors are Messrs. J. Gerrard and Sons, Swinton, Manchester. The total cost is about 12,000*l*.

KNOX MEMORIAL HALL, MONKSTOWN, IRELAND.—The new Knox Memorial Hall at Monkstown is now nearing completion, and will be opened shortly. The building has a main hall which will accommodate 300 people, and a smaller hall capable of seating sixty persons. Mr. Millar, of Messrs. Millar and Symes, architects, Dublin, prepared the plans for the work, and the contractor was Mr. T. C. Joly, Blackrock.

ISOLATION HOSPITAL, ROTHWELL, YORKSHIRE.—A new isolation hospital has been erected at Rothwell, the foundation-stone of which was laid in October, 1902. The architect was Mr. W. E. Richardson, of Rothwell. There are seven separate blocks of brick buildings, embracing three hospitals, which provide twenty-eight beds. It was estimated that the total cost, inclusive of the site, would be 10,900*l*., but the actual expenditure, which includes the cost of furnishing, has not exceeded 8,500*l*.

BUSINESS PREMISES, ABERDEEN.—New business premises are about to be erected in Upper Kirkgate, Aberdeen. The frontage of the new buildings will be of granite. Messrs. D. and J. R. M'Millan, architects, of Aberdeen, have prepared the plans for the work.

PROPOSED NEW PARISH COUNCIL BUILDINGS, GALASHIELS, N.B.—At the Galashiels Parish Council on the 3rd inst. sketch plans of the proposed new Parish Council Buildings, prepared by Mr. John Hall, architect, were submitted for consideration. The plans include board-room and office accommodation for the Inspector of Poor, and Registrar, with houses for these officials on the upper stories. The cost of the new buildings was estimated at between 1,400*l*. and 1,500*l*.

NEW RESIDENCE, DUNDEE.—A new private residence is being erected on a site adjoining Bingham-terrace, Dundee, from the plans of Messrs. James Foggie and Son, architects. The contractors for the work are:—Mason, William Bennet; joiner, John Stewart; plumbers, John Crichton and Sons; plasterer, William Dand; slater, Charles Brand; lathing, Slimming and Robertson; painters, P. and A. Davie.

FLOUR MILL, SHEFFIELD.—New flour mills, which have been built for Messrs. Price and Sons, in Millsands, Sheffield, were recently completed and opened. Messrs. Gibbs and Flockton, architects, Sheffield, prepared the plans for the work, and Mr. John Greenwood was the general contractor. The machinery was supplied by Messrs. Briddon and Fowler, flour mill engineers, Manchester.

TOWN HALL, HEREFORD.—The new Town Hall, at Hereford, was opened a few days since by the Mayor (Alderman H. C. Beddoe). The new building, which is situated in St. Peter's-square, at the top of St. Owen-street, has been erected at a cost of 25,000*l*. Mr. H. A. Cheers, of Twickenham, was the architect, and Mr. W. J. Bowers, of Hereford, secured the building contract at 18,450*l*.

THEATRE, POPLAR.—A new theatre is to be erected at the corner of Stainsby-road and East End-road, Poplar. The building has been designed by Messrs. Owen and Ward, of Birmingham, and will be erected under their supervision. The house will provide seating accommodation for 1,844 persons.

APPOINTMENTS.

UNIVERSITY COLLEGE, UNIVERSITY OF LONDON.—Professor Ernest Gardner has been appointed to represent the College on the Board of Architectural Education, established by the Royal Institute of British Architects; and Professor H. R. Kenwood has been appointed to represent the College at the Folkestone Congress of the Royal Institute of Public Health.

EALING.—There were 110 applicants for the appointment of clerk of works for new schools for the Corporation, and the selection has fallen upon Mr. A. M. Southern, of Watford.

APPOINTMENT OF SANITARY OFFICERS.—The Local Government Board has sanctioned the following appointments:—Chelsea—Mr. R. G. Davis as sanitary inspector, in place of Mr. W. Thorpe, resigned, from June 1. Woolwich—Mr. T. Powell as sanitary inspector, in place of Mr. A. Mackie, resigned, from April 18. Middle Temple—Mr. A. D. Cowburn as medical officer of health, in place of Dr. Waldo, resigned, from May 1. Inner Temple—Mr. A. D. Cowburn as medical officer of health, in place of Dr. Waldo, resigned, from May 1.

FORFAR.—Mr. Alexander Watterston, builder, Dundee, has been appointed Burgh Surveyor of Forfar.

SANITARY AND ENGINEERING NEWS.

WATERWORKS, NEWPORT.—The new waterworks at Newport are now nearing completion. The new works occupy a site nine miles from Newport, in the direction of Chepstow, upon a part of what was formerly Wentwood Forest. The reservoir, practically a natural lake in the hollow of the hills, has a storage capacity of 400,000,000 gallons. It is situated at Llanvaches, in the valley between the Grey Hill and Mynydd Tir Fach, an embankment having been constructed across the valley. The embankment at the base is 536 ft. wide, and gradually slopes, being at the top 30 ft. wide. It has cost over 100,000*l*., the foundations having been put in to a depth of over 200 ft. The embankment, which is faced with dressed limestone pitching, is joined by wing trenches, which spread into the hillsides, both being formed of concrete and puddled clay; in one case the foundations are carried to a depth of 170 ft., and in the case of the eastern trench to 190 ft. The main dam is 800 ft. long, whilst the combined length of the wings is 750 ft. At the lower end of the reservoir is the valve tower, connected with which are the mains to Newport. The polarite system of mechanical filtration has been adopted. Mr. Conyers Kirby, the then Borough Engineer, was appointed engineer of the works in 1893. The contract was let to Mr. James Young, of Glasgow; but the work was subsequently continued under the supervision of the Waterworks Committee. In 1897 Mr. Baldwin Latham, M.Inst.C.E., became engineer for the scheme, and he has carried it through to completion.

NEW PIER, WESTON-SUPER-MARE.—A portion of the new pier at Weston-super-Mare has been finished and opened. The section of the pier now completed has a uniform width of 50 ft. up to the pavilion, when it broadens out to 300 ft. for a distance of 175 ft. An electric tramway is to run the whole length of the structure. Mr. Dawson is the resident engineer, and the contractors are Messrs. Mayoh and Haley, of London.

THE SANITARY INSTITUTE.—At an examination in Practical Sanitary Science, held at Leeds, on June 10 and 11, three candidates presented themselves, and one candidate, Mr. Walter Barugh (Barnsley), was awarded a certificate. At an examination in Practical Hygiene for School Teachers, held in Leeds, on June 10 and 11, 1904, eight candidates presented themselves, and three were awarded certificates—viz., Miss E. Clegg (Hebden Bridge); Mr. C. Gedge (Barnsley); and Miss Beatrice Mitton (Barnoldswick).

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—Mr. W. B. Whitie, architect (Glasgow), has removed from 196 to 219, St. Vincent-street, Glasgow.

WAR MEMORIAL, BEDFORD.—The unveiling of the war memorial, at Bedford, took place recently. The memorial takes the form of a bronze statue, representing a soldier, which stands upon a pedestal of Portland stone. Messrs. Farmer and Brindley, of London, supplied the monument, and the cost was 1,000*l*.

QUEEN VICTORIA MEMORIAL, NOTTINGHAM.—The model for the Queen Victoria memorial statue, at Nottingham, has been finished. The monument will be of white Carrara marble, and the cost will be about 2,000*l*. Mr. Albert Toft is the sculptor.

DWELLINGS FOR THE WORKING CLASSES, LIVERPOOL.—At the Municipal Offices, on the 9th inst., Colonel A. J. Hepper, R.E., an Inspector of the Local Government Board, held an inquiry into an application by the Liverpool Corporation for a modification of the order of 1902, so as to authorise the demolition, on the first clearance, of an increased number of houses on the Upper Mann-street area, with a view to the erection of an additional number of dwellings for the working classes; and also for sanction to borrow 30,000*l*. for the purchase of land and the erection of dwellings on the area mentioned. Mr. R. D. Cripps, Assistant Corporation Solicitor, explained the nature of the two applications, and said the Corporation were empowered to deal with the Upper Mann-street area in two equal clearances, displacing 400 persons on each clearance, although, as a matter of fact, the total number to be displaced was only 743. It was intended to erect five blocks of dwellings on this area, and it was proposed to build three blocks on the first clearance. This would entail a displacement of 493 persons instead of 400 on a first clearance, but after such clearance they would re-house 288 persons instead of 260, as provided by the order. Then the approval of the Board was required to the purchase of the site of 236, Beaufort-street, to be added to the site comprised in the improvement scheme. The 30,000*l*. asked for was divided as follows:—11,150*l*. for the land, and 18,850*l*. for the buildings. Mr. F. T. Turton, Deputy City Surveyor, gave evidence as to the plans and the scheme in detail, explaining that in the construction of these dwellings there would be a new departure. As the aspect of the site faced towards the river, it was proposed to construct flat roofs, which could be used for playgrounds for the recreation of the tenants, for drying clothes; whilst at the end of each roof a shelter against wet weather would be provided.

QUEEN VICTORIA MEMORIAL, HARWICH.—The Victorian Memorial, at Dovercourt, Harwich, was unveiled on the 11th inst. The memorial consists of a statue, executed in Carrara marble, standing on a base of Cornish granite. The whole monument stands about 14 ft. in height, and the work has been designed and carried out by Messrs. J. Watts and Co., Ltd., Colchester.

HOUSES ADAPTED AS TENEMENTS.—The Public Health Committee of the London County Council reported as follows at Tuesday's meeting of the Council:—On May 10, 1904, we brought under the notice of the Council the report by the medical officer of health and by Dr. Young as to the sanitary accommodation in houses originally built for one family, but now let in separate tenements to several families. One of the many important facts disclosed in that report, was the wholly inadequate arrangements for the supply of water to the tenants of the upper floors in such houses; there being in many, if not most of such houses, but a single water tap, and that in the basement or on the ground floor. The supply of water to inhabited houses is at present regulated by the provisions of sections 2 and 48 of the Public Health (London) Act, 1891. Section 2 provides that the absence from premises of water fittings shall be a nuisance liable to be dealt with summarily under the Act, and section 48 (1) provides that "an occupied house without a proper and sufficient supply of water shall be a nuisance liable to be dealt with summarily under this Act, or, if it is a dwelling-house, shall be deemed unfit for human habitation." The requirements of both these sections appear to be met by the provision of one water tap, so placed as to be available to all tenants living in the house. We are of opinion that there are grave disadvantages in the present inadequate supply of water to the tenants of tenement houses, and we have very carefully considered the subject, with a view to devising some means of remedying what is nothing less than a serious evil. We think that the owners of such houses should be obliged to make reasonable provision for the supply of water to the tenants of each floor, and we would propose that power should be given to the sanitary authorities in London, within their respective districts, to compel the owner of any such house to make such provision. Time has not admitted of our consulting the Metropolitan Borough Councils in this matter. We propose to do so immediately, but in order to comply with the standing orders of the Council, we are anxious to obtain the authority of the Council for such a provision being included in the General Powers Bill of 1905. The Council would have the opportunity when that Bill comes before it of confirming or modifying the proposal which we now submit.

Legal.

ACTION BY ARCHITECTS.

THE case of Coggin and another *v.* the Aldershot Urban District Council came before Mr. Justice Grantham, and a special jury, in the King's Bench Division, on the 15th inst.—an action by the plaintiffs, Messrs. Goggin and Wallis, architects, of 15, York-Buildings, Adelphi, to recover from the defendants fees for work done in connexion with the preparation of plans, taking out quantities, etc., in connexion with the Aldershot School Board. Defendants, in their defence, denied liability, and said the plans had to be done according to the approval of the Board of Education, and such approval had never been given.

Mr. Pickford, K.C., and Mr. J. D. Crawford appeared for the plaintiffs, and Mr. Duke, K.C., and Mr. Cunningham Glen for the defendants.

Mr. Pickford, in opening the plaintiffs' case, said that the School Board for Aldershot were satisfied that his clients were entitled to their money—viz., 2½ per cent. on 14,369*l*. 19s. 10d., but the defendants, although the work had been done, and they had possession of the plans, and kept them, declined to pay, and principally upon these grounds. The defendants admitted that the work was done, and that it was satisfactory; but they said that the School Board was a Corporation under seal, and any contract entered into should be under seal, and that, no contract under seal having been entered into in the present case, there was no liability in law for them to pay.

The learned counsel was proceeding to open the facts of the case, when his lordship suggested that the parties should endeavour to come to terms. He said it was obvious that the plaintiffs must be paid, and, no doubt, if the other authority had not come in and taken over their powers in July of last year, the School Board, who gave the original order, would have paid.

A consultation took place, and Mr. Duke announced that, after his lordship's expression of opinion, defendants had agreed, although they had no resolution of the Council, to submit to a verdict for the plaintiffs for 500*l*., the amount agreed between counsel.

His lordship expressed approval, and said the defendants had acted with credit and honourably in the matter.

Judgment accordingly.

ACTION BY BUILDER.

THE case of Robins *v.* Goddard came before Mr. Justice Farwell, sitting as an additional Judge of the King's Bench Division, on the 9th inst., an action by the plaintiff, Mr. A. W. Robins, a builder, claiming from the defendant, Mr. T. F. Goddard, 1,055*l*. 17s. 2d. as due to him upon the final certificate of the defendant's architect, pursuant to a building contract, dated October 15, 1902, and made between the plaintiff and the defendant. The defence was that the amounts allowed for work and materials by the certificate were not in accordance with the provisions of the contract, and were excessive, and that the work and materials were not in accordance with the contract, with the result that defendant would have to incur great expense in re-doing much of the work, and in the purchase of proper materials. Defendant accordingly counterclaimed against the plaintiff for damages. The plaintiff replied that the defendant's counterclaim, under the terms of the contract, could not be maintained. The contract provided that the architect, during the progress of the work, had power to order the removal from the works any materials which he was of opinion were not in accordance with the specification, and for the substitution of proper materials. In case of default on the part of the contractor to carry out such order the employer had power to employ other persons to carry out the same, the expenses being recoverable from the contractor. The contract also provided that no certificate of the architect should be considered conclusive evidence as to the sufficiency of any work and materials to which it related, nor should it relieve the contractor from his liability to make good all defects as provided by the agreement. The architect's final certificate was in the following terms:—"I hereby certify that the sum of 1,055*l*. 17s. 2d. may be paid to Mr. A. W. Robins, of 11, High-street, Wanstead, in full settlement of all claims for extras and work under the contract dated October 15, 1902, being balance ascertained to be due after adjustment of accounts."

At the conclusion of the arguments of counsel, his lordship said the action was really undefended. The defendant's counterclaim raised a question as to the construction of the building contract. In such cases the employer

used the services of an architect for his own protection. The builder could recover nothing except under the architect's certificate, given under Clause 30 of the contract. If all the contract was read together, it was quite plain and reasonable. The effect was that the architect was made a referee as between the parties to the contract. The defendant now asked the court or a referee to decide as to alleged defective materials and workmanship. That was provided for by Clause 17, and unless the architect expressed an opinion unfavourable to the contractor, there was nothing for the court to decide. Therefore, there was no case on the counterclaim, and there must be judgment for the plaintiff for the amount claimed, with costs.

A stay of execution was granted on the usual terms, with the view to an appeal.

Mr. Duke, K.C., and Mr. Beddall appeared for the plaintiff; and Mr. C. B. Marriott for the defendant.

ACTION BY PAVING CONTRACTORS.

THE case of the Sanitary Block and Tile Pavement Company, Ltd., *v.* Lee and Sons came before Mr. Justice Channell in the King's Bench Division on the 7th inst.

In this case the plaintiffs claimed damages against the defendants for alleged breach of contract.

The statement of claim alleged that the plaintiffs were paving contractors at Westminster, and the defendants timber merchants and manufacturers of wood-paving blocks. In or about May, 1903, the plaintiffs entered into a contract with the Corporation of Westminster to carry out certain wood-paving work in accordance with a certain specification. Plaintiffs alleged that the defendants were aware of the contract, and of the terms of the specification, and for the purpose of enabling the plaintiffs to carry out the work, defendants agreed to supply them with about 300,000 creosoted, yellow-deal paving-blocks. The contract, plaintiffs said, was contained in letters which had passed between them and the defendants between May and June, 1903, and that defendants agreed to supply yellow-deal blocks suitable for use by plaintiffs in carrying out their paving work in accordance with the terms of the specification, and, in particular, agreed that the timber from which such blocks were sawn should be the "best of its respective kind, of even grain, well seasoned, and free from sap." Plaintiffs said that the defendants warranted that the goods should be reasonably fit for the purpose for which they were required, and that, in consequence of their not so supplying them, plaintiffs were obliged to purchase same elsewhere at an increased price. Hence the claim for damages. The defence was a general traverse of the plaintiffs' allegations.

Mr. Lush, K.C., and Mr. Batten appeared for the plaintiffs, and Mr. Scrutton, K.C., and Mr. Clay for the defendants.

In the result his lordship, after hearing the evidence and the addresses of counsel, gave judgment for the plaintiffs for 102*l.* 10s., and costs.

A stay of execution was granted with the view to an appeal on defendants bringing the damages into court, and paying the plaintiffs' solicitor's costs on the usual undertaking.

NEWCASTLE LIGHT CASE.

IN the Chancery Division on the 9th, 10th and 14th insts., Mr. Justice Buckley had before him the action of Cowper and Steel Coulson and Co., Ltd., *v.* Milburn and others.

In this case the plaintiffs claimed an injunction to restrain defendants, their servants, and agents from continuing the erection of certain buildings so as to cause a nuisance or obstruction of the ancient lights of the plaintiffs' premises, as the same were enjoyed previous to the removal of the buildings formerly standing on the site of the defendants' premises.

Mr. Astbury, K.C., and Mr. Maughan appeared for the plaintiffs, and Mr. Buckmaster, K.C., and Mr. O'Leigh Clare for the defendants.

Mr. Astbury, in opening the case, said that the plaintiff, Cowper, was the freeholder, and the plaintiff Company the lessees of Dean Inn, which was No. 20, Dean-street, Newcastle-on-Tyne. Until recently, on the west side of Dean-street, there were certain buildings of moderate height, and they had been acquired by the defendants and pulled down, and on the site the defendants had commenced to erect buildings of great size far exceeding the height of the old buildings. After explaining to his lordship the position of the buildings on the model, the learned counsel said that the defendants disputed the plaintiffs' title in the defence. He asked if they would admit the plaintiffs' title.

Mr. Buckmaster said he wanted to see the plaintiff in the box.

Mr. Astbury said he would be called. He said that in June, 1903, defendants began to build, and in December, 1903, plaintiff first became aware that the defendants intended building higher than the old building, and he thereupon instructed his surveyor to go and examine the defendants' plans. On December 14, 1903, defendants' solicitors, in answer to complaints from plaintiffs, denied that they were under any liability, and on December 16 the writ in the action was issued.

The plaintiff, Mr. Joseph Cowper, was called, and stated that on December 16 defendants' buildings were below the height of the old buildings. Defendants' buildings had already affected the light of Dean Inn. People on the ground floor and first floor had to burn gas nearly all day, and the light on the next two floors was affected. The new buildings simply destroyed his premises as licensed buildings. They could not get anyone to go into the place, as they had to burn gas.

His lordship: Do you say that people will not drink beer because of the gas?

The plaintiff: They generally like a light place, and the place is not so light and comfortable as before.

Cross-examined,

He had been speculating in property in Newcastle for many years. In the course of his experience he had brought a few actions to restrain people building. Asked about some property he sold to Messrs. Milburn, witness admitted it was bounded on each side by property they had already bought. During the last few years the whole character of Dean-street had been slowly changing. Witness admitted that in the vicinity of his property several new and high buildings had been erected. Plaintiff admitted that on the east side of Dean-street and north of Dean Inn there was a big building put up by the Prudential Company. The result of the change in the character of Dean-street was that the value of property had gone up considerably in value; but the value of property all over Newcastle had gone up during the last few years. He knew in the early part of 1902 that it was the intention of the defendants to build upon the site they had acquired in Dean-street, and that the site extended southward from the Manchester Fire Insurance building, of which he was a manager, to the bottom of the street. He knew that the defendants would build so as to interfere with the light. He thought the new buildings would be very little higher than those that stood there before. He never suggested to anybody that, judging from the height of the crane, the defendants must be going to put up a "Tower of Babel." He was not in actual occupation of any part of Dean Inn. His interest was in the rents received from the tenants. The light on the ground floor was of vital importance to the tenants in carrying on their trade. His chief ground of complaint was that the new building would depreciate the value of the property in the future. He bought the place for future development.

Mr. Buckmaster: Do I understand that on some future date you intend to rebuild or reconstruct these premises?—Yes, I did; but not now.

It is quite hopeless?—Yes.

Further cross-examined, plaintiff admitted that, before he brought the action, Steel, Coulson, and Co. had not complained about the light. It was not true that Steel, Coulson, and Co. refused to come in as parties unless he indemnified them.

Mr. John Lamb, an architect and surveyor, of Newcastle, said that he knew the premises in question, and, in his opinion, the new buildings would seriously damage the letting and selling value of the Dean Inn property. He said the ground floor of the plaintiffs' building, under the old style, was worth 90*l.* a year; but, under the new conditions, it would only be worth 50*l.* He capitalised that at 1,000*l.*, being twenty-five years' purchase; but, on account of some advantage to be got in the upper floors, he reduced the loss to 900*l.* In his opinion, owing to the darkening of the building, there was a great risk of the license being lost.

Cross-examined,

The part most affected was the back of the ground floor, and that would most seriously affect the value.

Mr. James Macmickle, tenant of the Dean Inn for the last five years, said that when the old buildings stood he had to light one gas jet on a dull day; but now he had to light three. He had to light up at least an hour and a half earlier each day than before the defendants' building was put up. The use of gas interfered with the business very much, and the takings were less.

Mr. P. Smith, manager to Steel, Coulson, and Co., said that his firm had about thirty houses in Newcastle. Owing to the depreciation in the light of the house, the profit on the bar was 1*l.* a week less. He had no desire to renew the lease now. The character of Dean-street had altered very much, and was no longer suitable for a working-class beer-house.

Further examined, Mr. Smith said he calculated the loss roughly at 1,000*l.* The value of the Dean Inn, as a beer-house, was gone; but he thought the building could well be used as a restaurant. They would have to cater for a different class of people. By the darkening of the premises the chances were they would not get a full license for the premises.

Cross-examined by Mr. Buckmaster,

If the light was not interfered with, the Dean Inn, as a beer-house, might just make ends meet.

Your idea about the light is that it is the last straw on the camel's back?—Yes; but it is a pretty heavy one.

Mr. Arthur Stockwell, architect and surveyor, of Newcastle, said he prepared the plans for the alterations made at the Dean Inn in 1877, which were carried out at a cost of 400*l.* He agreed with Mr. Lamb that the depreciation in the value of the house was about 90*l.*

Mr. James Scott, an architect, of Newcastle, said he had known Dean-street for many years, including the buildings pulled down by the defendants. The effect of the new buildings would be to materially injure the plaintiffs' premises, and make them substantially inconvenient.

Mr. Chas. Dixon, clerk of the works, who inspected the defendants' premises on Mr. Cowper's instructions, gave evidence in support of the plaintiffs' case.

Cross-examined,

Between December and January defendants used great expedition in putting up their building. He did not suggest that they put on more men, but they concentrated their men on one part. The substitution of fine business premises, such as defendants were building in place of very old buildings, ought to improve Dean-street.

Mr. Joseph Potts, architect and surveyor, of Newcastle, examined, said he had considerable experience in valuing property in Newcastle for light obstruction. He said that property in Dean-street has been steadily rising in value for some years. He was of opinion that plaintiffs' property could be put to very much greater advantage than carrying on an inn. He had not the slightest doubt that the buildings of the defendants had depreciated the value of the plaintiffs' property, and, if they were carried higher, the depreciation would be more. A fair value of the Dean Inn, as it stood to-day, was 3,500*l.*, and the damage it would suffer from the defendants' new building he estimated at 1,000*l.*

Cross-examined,

During the last few years, the west side of Dean-street had been practically rebuilt. It was the improvements in the quay that had led to the enhanced value of the property in Dean-street.

This being the plaintiffs' case, Mr. Buckmaster proceeded to call evidence for the defendants.

Mr. David Oswald, an architect, of Newcastle, said that Dean-street had been constructed about ninety years, and, until the last few years, consisted of old property. He inspected the plaintiffs' premises on January 6 and 7, before the defendants' old buildings were pulled down, and the furthest that a ray of light could penetrate on the ground floor was 15 ft. In the event of the defendants' buildings being put up to their full height the rays of light would penetrate 9 ft. Having regard to all the circumstances, he did not consider that the new buildings of the defendants would seriously interfere with the comfort and enjoyment of the plaintiffs' premises. He thought that the plaintiffs' premises would increase in value if the defendants' buildings were put up in accordance with the present plans.

Cross-examined,

He had not been on the plaintiffs' premises since January 7, and the defendants' building had been increased in height 13 ft. since that date, and that would make some depreciation in the amount of the light.

Mr. William George Law, C.E., Borough Surveyor and Valuer to the Newcastle Corporation, said he had examined the Dean Inn and the plans of the defendants' new buildings. Defendants' buildings would not interfere with the enjoyment of the plaintiffs' premises. The new buildings would rather increase the value of the plaintiffs' property. Dean-street was a wide street of Newcastle.

Mr. H. S. Clark, Mr. B. F. Simpson, architects and surveyors, and Mr. Robert Mack, an auctioneer and valuer, also gave evidence on behalf of the defendants.

Mr. Buckmaster then addressed his lordship on behalf of the defendants.

His lordship, in giving judgment, said the street opposite the plaintiffs' premises was 57 ft. wide, and plaintiffs' premises had

windows on the ground, first, second, and third floors. The action was commenced on December 16, 1903, claiming an injunction to restrain the defendants from erecting certain buildings opposite, so as to darken, injure, or obstruct any of their lights in the four floors. On May 2, this year, the House of Lords gave judgment in the case of the "Home and Colonial Stores v. Colls," and, on May 18, the statement of claim was amended by striking out any claim with respect to the windows on the second and third floors, and in doing so, plaintiffs were well advised. Relief was now asked in respect of the ground and first floors. Dean-street, which was a street of some importance, had undergone considerable improvement. Defendants had purchased a very large block of land lying on the western side of Dean-street, and were erecting upon that site a large and important block of buildings. During the last few years the character of the buildings in Dean-street had considerably improved, and defendants' buildings were a further development of the street. Suppose the defendants were building so as to create an actionable nuisance to the plaintiffs' light, with the consequential right in damages, but by the character of their buildings so improved the neighbourhood as that the plaintiffs' premises would be appreciated by that state of things, so that the act of the defendants, on the whole, would do no harm, but good, could plaintiffs be said to have suffered no depreciation from the appreciation of the neighbourhood? His lordship thought not. If he found that there was an actionable nuisance, then plaintiffs were entitled to damages for that nuisance, and it was no answer for the defendants to say:—"We, by our act, have improved your property for other reasons." In this case he, therefore, disregarded altogether the question of any improvement of the neighbourhood by the defendants. The question to be decided was, whether the defendants' buildings so obstructed the light given by the plaintiffs' windows as that plaintiffs were thereby deprived of sufficient light, according to the ordinary notions of mankind, and having regard to the neighbourhood in which the plaintiffs' premises were situated. Dealing with the evidence of the surveyors on both sides, his lordship said that, with regret, he must say that the plaintiffs' evidence had been exaggerated. The evidence of the defendants was that, according to the ordinary notions of mankind, there was no alteration of light so as to affect the plaintiffs' premises. With regard to the amount of diffused light on the first floor, and the situation of the surrounding premises, although they had sustained some loss of light, they had not sustained any such loss as to give rise to a claim which was actionable. Dealing with the ground floor windows, his lordship said that in 1897 large alterations to the Dean Inn were made, including a passage-way leading to the upper rooms of the house. Fifty per cent. of the ancient light had thus been obscured. Proceding, his lordship said he did not think there was any nuisance on the part of the defendants. There might be inconvenience, but residents in towns had to put up with a great many inconveniences. The ground on which he really decided the question as to the ground floor windows was that the plaintiffs' premises had been so altered as that obscuration, if there had been any of which complaint could be made, was not due to the defendants' act, but to the conjoint act of the defendants and the plaintiffs. That being so, the action failed, and would be dismissed, with costs.

Mr. Buckmaster applied for an inquiry as to damages. He said the defendants had been restrained from building for some time, and had thereby suffered damage.

After some argument, his lordship refused the application, on the ground that the reason the case was not tried earlier was because the parties had waited for the decision of the House of Lords in the case of the "Home and Colonial Stores *v.* Colls."

PATENTS OF THE WEEK.

APPLICATIONS PUBLISHED.*

9,120 of 1903.—J. N. FERGUSON: *Means for Protecting Windows and like Openings.*

A protection for window and like openings, consisting of a screen comprising slidable sections, interlocking means between the sections to limit their vertical movement in each direction, and other interlocking means between the sections upon opposite sides thereof to direct them in their sliding movements and to prevent lateral displacement at any point in the range of movement, both of the aforementioned locking means located upon the said sections.

10,853 of 1903.—A. BARRACLOUGH and A. CROWTHER: *Closet Flushing Cisterns.*

This invention relates to cisterns for flushing water-closets and the like, and consists in means for supporting the ball tap which supplies water to the cistern and the weighted lever which operates the syphon or other flushing device. According to this invention the ball valve, instead of passing through the wall of the cistern, is supported by a bar or bracket, preferably cast in one piece, with a bracket which supports the weighted lever, forming a substitute for the ordinary crossbar. By this means it is claimed that the ball valve can be more firmly secured, and is more accessible for repairs.

13,152 of 1903.—W. PEEL: *Construction of Gates and hinges therefor.*

This consists in the combination in a gate of horizontal pairs of rails, diagonal struts formed with notches at their opposite edges, and pegs, wedges, or the like, introduced or driven between said notches and the crossing corners of the said horizontal rails and tie bars on heel post of the gate respectively.

13,244 of 1903.—D. J. MICHAEL: *Safety Suspending Grip for Lifts, Skips, and the like.*

This relates to a safety catch for a cage consisting of a box having inclines opposite one another, rollers working on the inclines so that the part to be gripped passes between the rollers and is connected upon opposite side, and a flexible connexion to the suspension rope holding the grips out of action.

15,466 of 1903.—J. GREEN and W. GREEN and CO., LTD.: *Cooking Ranges or the like.*

A cooking range, or the like, consisting in the combination with an oven having flues for heating it with a common exit at the bottom of a passage formed of channel iron or the like secured to the back of the range leading in an oblique or curved direction from the exit to the central chimney or flue, and connecting with the latter in such a position that this outlet will be accessible from the front for cleaning and like purposes when the hood is open.

15,540 of 1903.—L. LISTER and F. LISTER: *Certain Casement Windows.*

This invention relates particularly to that class of casement windows in which the casement or window frame is hung by double-knuckled hinges so that it can be opened either inwardly or outwardly. In this casement, weather-bars or tongues are employed along the top, bottom, and sides of the casement, which project into grooves in the outer frame formed for their reception. In order that the casement can be opened, the weather-bars are made along the top and bottom and the free or opening side of the casement so that they can be withdrawn or made to recede into the body of the casement frame. For this purpose such bars are made with inclined slots, through which fixed pins are passed, so that when the bars are moved longitudinally the inclination of the slots causes them to also move inwards or outwards. Or the pins may be fixed to the bars and their ends engage inclined slots formed in metal fittings secured to the casement. The vertical bar on the free side of the casement may be made in two pieces, the lower end of the upper half being made to slide over the upper end of the lower half. To cause the bar to recede, links are provided to draw the two halves towards each other. The upper end of the upper half and the lower end of the lower half are respectively arranged to engage the top and bottom weather-bars, and move them so that they all recede together. The links may be moved by levers operated by a cam on a spindle provided with an operating handle. Or they may be moved by an eccentric, or eccentrics, on the spindle. Springs are provided to move the bars outwards. In small windows, the vertical bar may be made in one piece, and be moved bodily inwards by a cam or eccentric.

15,714 of 1903.—G. AINLEY: *Window Holders for Sliding Sashes.*

On the meeting-rail of the bottom sash a metal casing is fixed, the underside of which is suitably grooved to allow the free working of a sliding bar. On the upper surface of the said metal casing is a T-shaped slot communicating with the groove on the underside. The sliding bar is provided with a projection of convenient form, which passes through and above the T-shaped slot in the metal casing, this projection is used as a handle for actuating the sliding bar. The projection may be turned from a vertical to a horizontal position on being pushed forward to the end of the T-shaped slot, thus preventing the bar from accidentally working back from its forward position. On the style of the top sash a metal plate is fixed, containing a series of suitably-shaped holes to receive the end of the sliding bar, by means of which the sashes can be securely fixed in a variety of positions.

15,769 of 1903.—L. A. DE MAYO: *An Adjustable Door Hook or Catch.*

The apparatus comprises a keeper and a latch, the keeper being formed of a base plate and an outwardly projecting lug, which projects diagonally from the face of the door. The lug has two openings arranged at different distances from the base plate, and terminates in a vertical notched head. The latch is formed of two parallel members spaced apart so as to leave a longitudinal opening or slot in the arm, and connected at their outer ends by a cross-piece, from which a hook projects. Notches are formed at the inner ends of said members, said notches lying opposite each other to form an enlarged portion at the inner end of the opening in the arm. The upper member of the arm has a series of lugs, which are spaced equidistant from each other and lie in the opening in the arm. The members are connected at their inner ends by a pin which extends between them and is arranged to turn loosely in a box or thimble, which is placed between the members of the arm and carries a stud which is arranged to turn freely in a plate fastened by screws, or otherwise, to the frame of the door. The plate has at one side of the thimble a stop, which is preferably formed integral with the plate.

16,001 of 1903.—P. T. SHIELDS: *Fire and Sound-Proof Floors.*

A fire and sound-proof floor, comprising anchors adapted to be built into the walls of a building and provided with upturned ends to resist outward strain, and projecting into a recess formed in the inner face of the wall, tie rods having one end hooked or looped on to the parts of the anchors which project into the recess in the wall, and their other ends similarly attached to a bar resting upon a support between the outer walls, or to similar anchors in an opposite outer wall, the parts of the tie rods which are intermediate, their ends bent downwardly; cement or concrete arranged between, above, and below the tie rods and extending into the aforesaid recesses in the walls, wood strips partly embedded in the upper surface of the cement or concrete, and floor boards nailed to said strips, with an air space between said boards and cement or concrete.

16,056 of 1903.—J. SEPHTON: *Ventilators.*

A ventilator for ventilating rooms or spaces, comprising a chamber, having a branch or branches through which the air to be introduced passes to the interior of the room, and a slide or slides, or damper or dampers, adapted to slide and open or close wholly or partially the said branch or branches.

16,301 of 1903.—A. M. LAMBERT: *Building Blocks or Slabs.*

This invention relates to blocks or slabs for use in building up partition walls and the like, and refers more particularly to the form and shape of the groove with which each side or end of the slab is traversed. The slabs are made of rectangular or diamond shape, although they may be of any regular or irregular geometrical form. The sides of these slabs or blocks are formed with a groove of oval form extending from corner to corner of the slab, leaving a narrowed surface at each side of the groove. These grooves in elevation are not made straight, but are arched from corner to corner, the curve being deepest preferably in the centre, so that, when slabs or blocks are put together with cement or grouting in the groove, there is a greater amount of cement or grouting in the centre of the block than towards the edges, and, when set, a thin partition wall constructed in this manner is claimed to be stronger than the ordinary method of construction.

28,626 of 1903.—G. MILLS: *A Deflector or Distributor for Automatic Fire Extinguishing Sprinklers.*

This deflector or distributor consists of a concavo-convex disc of brass or other suitable metal, round the edges of which are formed any suitable number of specially-shaped apertures. In practice, it has been found that four of these apertures give the best result, but no limitation is made as to number. These apertures are of the largest diameter in the concavo-convex sides of the deflector, and are contracted slightly at the mouth or top, opposite which they terminate in slots or nicks towards the centre. The deflector is mounted opposite the valve orifice, and supported by arms or equivalent forming part of the sprinkler body, and in such a case and with four apertures in the deflector a very uniform and effective distribution of water is obtained, whether the latter is discharged upwards towards the ceiling or downwards towards the floor of the building in which the sprinklers are installed.

663 of 1904.—A. S. CORONEL: *Window Furniture for Holding and Suspending Sliding Sashes.*

Window furniture for holding and suspending sliding sashes, consisting of a track or rail in each sash channel and in the sash stiles, wheels adapted to run on said track, and to

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

be forced thereon by springs so as to firmly hold said sash in any desired position, and at the same time allow it to be easily moved along the sash channels.

5,382 of 1904.—B. KITTLER: *Machines for Manufacturing Bricks, Briquettes, and the like.*

A machine for manufacturing bricks, consisting in the combination of a mould wheel formed with moulds in the peripheral face thereof, a device for filling the moulds, and a second wheel provided with plungers for discharging the bricks from the moulds.

7,393 of 1904.—O. FORSTER: *Construction of Hollow Building Blocks, Bricks, Stones, Walls, Floors, Ceilings, and Beams, and the Fixing of Dowels and the like therein.*

A hollow brick or stone having a break away stay-piece provided at its junctions with the body of the brick with inner and outer grooves for facilitating the shearing of the same, in which the inner grooves are arranged between the outer grooves and the body of the brick, and the inner and outer grooves extend into the stay-piece to the same plane or overlap each other.

8,220 of 1904.—M. COSSEY: *Means for Hanging or Supporting Sliding Doors, and the like.*

This consists in the combination of two outside bars, of an intermediate bar, said outside bars and intermediate bar being movable relatively to each other, movable anti-friction devices arranged on both sides of said intermediate bar and between it and the outside bars, carriers for said anti-friction devices, adapted to retain said anti-friction devices on both sides of the intermediate bar in position relatively to each other, and means for preventing said carriers from moving beyond predetermined points.

8,896 of 1904.—H. LEBUS and S. LEBUS: *Drawers for Tables, Desks, Wardrobes, and other Articles of Furniture.*

This invention relates to drawers for tables, desks, wardrobes, and other articles of furniture. In such wooden drawers as heretofore made, the sides are composed of plain lengths of wood which, as is well-known, frequently warp and shrink and cause the drawer to stick in its guides. The object of this invention is to provide means whereby the above described disadvantage can be obviated, and to this end, instead of making the drawer sides in the usual way, they are made in the form of panels secured in frames, which may be of any suitable construction.

8,966 of 1904.—S. H. JACOBSON: *Ventilators.*

This consists in the combination with a ventilating pipe or conduit, of a rotary cowl comprising a hollow transversely extending body having an opening in the bottom wall thereof, a neck or tube secured to said body, extending through said opening and surrounding said pipe or conduit, bearing plates located at the common centre of said neck and pipe, by means of which said cowl is supported from and mounted to turn on said pipe, angularly arranged arms leading upwardly from the upper of said plates and connecting the same with said neck, angularly arranged arms leading downwardly from the lower of said plates and connecting the same with said pipe and a valve in the body of said cowl forming a contracted passage therethrough and serving to cut off said opening from the direct current of air.

9,025 of 1904.—F. SHUMAN: *Forming Piles of Concrete or Cement.*

A method of forming concrete or cement piles, which consists in providing a hollow pile, sinking said pile into the ground to form a hole and then slowly or intermittently withdrawing the said pile and filling the hole with concrete or cement during such withdrawal, and then permitting the said concrete or cement to set.

13,586 of 1903.—F. SHARP: *House Gullies.*

According to this invention, a compact, self-contained, reversible or adjustible gully top is obtained without any projecting inlets. For this purpose, rebated openings are formed in the side walls of the gully top, and, in lieu of the usual grating occupying the whole upper area of the gully top, part of such area is covered over, and the cover is provided with rebated openings, thereby making that part available as a connexion or seating for vertical drains to discharge beneath the grating.

13,678 of 1903.—A. GRAY: *Drying Timber.*

A process of drying, consisting in first heating the material in a closed chamber to a uniform temperature throughout, or nearly so, then reducing the pressure in the chamber and removing the moisture thereby vaporised, until the material is so reduced in temperature throughout its substance that the moisture evaporates slowly, and afterwards admitting air or vapour, or both, into the chamber, and then again closing the chamber and repeating the above cycle of operations.

21,947 of 1903.—C. HOCKE: *Manufacture of Portland Cement.*

A process for utilising low-grade fuel in the manufacture of cement, in which slack coal or powdered coal is added to the mixture of which the cement is manufactured, the mixture being pressed into the shape of bricks, which, after the burning process, will have been reduced to completely calcined cement clinker, rendered very porous by the distillation of the fuel.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

June 2.—By MADDISON, MILES, & MADDISON (at Yarmouth).

Yarmouth, Norfolk.—20, Audley-st., u.t. 38 yrs., g.r. 1*l.* 2s., q.r. 15*l.*	£210
38, Middle Market-rd., f., y.r. 18*l.*	360
19 and 20, South Market-rd., f., y.r. 21*l.* 1s.	320
5, St. James's-passage, f., w.r. 9*l.* 2s.	130
42, Dene-side, f., y.r. 10*l.* 8s.	140
22 Row 99, and 15 Row 101, King-st., f., y.r. 17*l.* 5s.	178
Gorleston, Suffolk.—36 and 37, Lower Cliff-rd. (s.), f., y.r. 20*l.*	265

By SALTER, SIMPSON, & SONS (at Stowmarket).

Wickham Skeith, Suffolk.—"Wickham Hall Estate," 131 a. 3 r. 21 p., f., p.	3,000
Enclosure of land, 11 a. 3 r. 8 p., f.	170
Impropriate rent-charge of 60*l.* 18s. 6d.	820
Wilby, Suffolk.—"Rookery Farm," 194 a. 2 r. 13 p., f., y.r. 145*l.*	1,475
Stoke Ash, etc., Suffolk.—"Coulsey Wood Farm," 75 a. 0 r. 5 p., f. and c., y.r. 50*l.*	675

By J. CUMBERLAND & SONS (at Ampthill).

Sheppingley, etc., Beds.—"Froghall Farm," 94 a. 0 r. 31 p., f.	3,450
Freehold bungalow residence and 2 a. 2 r. 0 p., p.	280

June 3.—By T. W. GAZE & SON (at Diss).

Langmere, Norfolk.—A freehold farm, 193 a. 3 r. 18 p.	2,225
Burston, Norfolk.—A freehold and copyhold farm, 39 a. 0 r. 12 p.	400
Two enclosures of pasture, 4 a. 0 r. 27 p., c.	105

By W. INGRAM SELWYN (at Reigate).

Brockham, Surrey.—Gadbrook-la., a freehold cottage and 0 a. 0 r. 31 p., y.r. 10*l.* 8s.; Home-la., a copyhold cottage and 0 a. 0 r. 27 p., w.r. 13*l.*	188

By MACQUIRE & MERRY (at Kettering).

Broughton, Northants.—Pytchley-rd., "Sunnyside" and "West View," f., y.r. 54*l.*	775
Northampton-rd., three residences and garden plot, f.	1,055
Northampton-rd., 32 freehold cottages	1,710

June 4.—By SALTER, SIMPSON, & SONS (at Norwich).

Southwood, Norfolk.—Two freehold grazing marshes, 26 a. 0 r. 17 p., y.r. 41*l.* 10s.	570

June 6.—By DAVID J. CHATTELL.

Bermondsey.—80, 103 to 129 (odd), Alscot-rd., u.t. 25 yrs., g.r. 65*l.*, q.r. 415*l.*	3,280
Pimlico.—19, St. Leonard-st., u.t. 19½ yrs., g.r. 4*l.*, y.r. 36*l.*	225
Stoke Newington.—53, Harcombe-rd., u.t. 60 yrs., g.r. 5*l.*, y.r. 30*l.*	290

By HEAPS, SON, & REEVE.

Pimlico.—96, Warwick-st., u.t. 20½ yrs., g.r. 10*l.*, e.r. 70*l.*	355
Hampstead.—2, 4, 10, and 12, Lowfield-rd., f., w.r. 235*l.* 14s.	1,805
Kilburn.—17, Salusbury-rd., u.t. 58½ yrs., g.r. 7*l.* 10s., w.r. 65*l.*	300
1A, 3A, 13, and 15, Albert-rd., u.t. 55½ yrs., g.r. 21*l.*, w.r. 176*l.* 16s.	880
62, Albert-rd., u.t. 58½ yrs., g.r. 5*l.* 5s., w.r. 46*l.* 16s.	245
1 to 4, Alpha-pl. west, u.t. 53½ yrs., g.r. 18*l.*, w.r. 131*l.* 6s.	490
21, Bridge-st., u.t. 54½ yrs., g.r. 5*l.*, w.r. 31*l.* 4s.	130
8, 9, and 12, Abbey-la., u.t. 14½ yrs., g.r. 30*l.*, w.r. 98*l.* 16s.	120
114 and 116, Albert-rd., u.t. 58½ yrs., g.r. 12*l.*, w.r. 115*l.* 14s.	485
43, Cambridge-av., u.t. 54½ yrs., g.r. 10*l.*, e.r. 55*l.*	465

By WM. HOUGHTON.

Walthamstow.—St. Mary's-rd., a freehold building site	325
Westbury-rd., a freehold corner building site	135
2, Grosvenor Park-rd. (s.), f., p.	810
37, Selborne-rd., with factory premises, yard, etc., adjoining, u.t. 75 yrs., g.r. 9*l.* 10s., w.r. 127*l.* 12s.	850

By KEMSLEYS'.

Forest Gate.—22, Hampton-rd., u.t. 72 yrs., g.r. 7*l.* 7s., e.r. 38*l.*	325
Buckhurst Hill.—Epping New-rd., "The Limes," f., y.r. 40*l.*	750

By LONG & SONS.

City of London.—5, St. Bride-st. ("Yexley's Restaurant"), u.t. 48½ yrs., g.r. 150*l.*, y.r. 600*l.*	5,000
Brentford, Middlesex.—High-st., copyhold premises, lately "The Marquis of Granby," p.-h., p.	590

By EDWARD MILLARD.

Brixton.—Sudbourne-rd., eight blocks of building land, let on lease for 99 yrs., at per annum	441

By E. PENNINGTON.

Twickenham.—Riverside-rd., freehold building land, area 22,730 ft., p.	1,200

By THOMAS, PEYER, & MILES.

Kimpton, Herts.—"The Lion Brewery," f.	2,000

By J. CUMBERLAND & SONS (at Luton).

Luton, Beds.—17 and 19, Belmont-rd., f., y.r. 41*l.* 12s.	580
Luton, Beds.—40, George-st., f., p.	£1,575
Park-st., freehold house and premises, also two plots of land adjoining	510
91 to 105 (odd), Cambridge-st., f., w.r. 130*l.*	4,640
Toddington, Beds.—Duck-la., "The Toddington Gas Works," f. (as a going concern)	575

By CHADWICK & SONS.

Long Acre.—17, Queen-st. (s.), f., w.r. 263*l.* 18s.	1,200

June 7.—By T. C. COX.

Twickenham, Middlesex.—Colne-rd., "The Wheatsheaf Brewery," u.t. 55 yrs., y.r. 120*l.*, with goodwill, also copyhold cottage and land adjoining	4,000

By DEBENHAM, TEWSON, & CO.

East Barnet, Herts.—East Barnet-rd., a portion of the "Manor Pk. Estate," 14 a. 3 r. 35 p., f.	7,150

By MANSELL & ROWE.

Norwood—9 and 11, Crescent-rd., u.t. 70 yrs., g.r. 29*l.*, y.r. 155*l.*	1,125

By F. G. WHEATLEY & SON.

Camberwell.—Daneville-rd., f.g. rents 86*l.* 10s., reversion in 58½ yrs.	2,325
Cuthill-rd., f.g. rents 45*l.* 10s., reversion in 58½ yrs.	1,220
Brondesbury.—Burton-rd., f.g. rents 130*l.*, reversion in 81 yrs.	3,505
Branksome, Dorset.—Lake-rd., f.g. rents 55*l.* 14s. 6d., u.t. 81 yrs., g.r. nil	1,015

By BREADMORE & WEBB (at Richmond).

Richmond, Surrey.—Kew-rd., "The Station Hotel," etc., f.g. rents, 221*l.*, reversion in 72 yrs.	6,375
164 and 166, Kew-rd., with Nursery Grounds adjoining, area 2 a. 0 r. 5 p., u.t. 39½ yrs., g.r. 60*l.* 4s. 6d., y.r. 198*l.*	1,410

By D. SMITH, SON, & OAKLEY, with WORSFOLD & HAYWARD (at Ashford).

Saltwood, Kent.—"The Grove," etc., enclosures 2 a. 2 r. 36 p., f.	340
"Redbrooks," and 5 a. 0 r. 16 p., f.,	650
Freehold Cottage, and 0 a. 2 r. 20 p.	340
Three freehold enclosures, 7 a. 3 r. 8 p.	1,450
Slaybrooke Farmhouse, homestead and 0 a. 2 r. 34 p., f.	700
Enclosure of land, 5 a. 1 r. 10 p., f.	800
Hythe, Kent.—Freehold pasture land, 13 a. 2 r. 1 p.	390
Eastbridge, Kent.—Freehold marsh land, 14 a. 3 r. 33 p.	550

By TOMPKINS & CAPPER (at Abergavenny).

Abergavenny, Monmouth.—Chapel-rd., "Rock Villa," u.t. 966 yrs., g.r. 2*l.* 10s., p.	615
Lansdowne-rd., corner building site, area 1 acre, f.	205

By J. & S. MOTION (at Mason's Hall Tavern).

Holloway.—Landseer-rd., "The Cottenham Arms," p.h., u.t. 23¾ yrs., y.r. 100*l.*, with Goodwill	3,900

By W. BROWN & CO. (at Great Missenden).

Prestwood, Bucks.—"Pankridge Farm," 9 a. 2 r. 0 p., u.t. 137 yrs., g.r. nil	1,200
Enclosure of grass land, 7 a. 0 r. 28 p., part f., and part u.t. 137 yrs., g.r. nil	375

JUNE 8.—By FOSTER & CRANFIELD.

Holloway.—Harvist-rd., "Tenby Villa," with stable, u.t. 38½ yrs., g.r. 6*l.*, e.r. 84*l.* 18s.	510
Barnsbury.—82, Westbourne-rd., u.t. 54 yrs., g.r. 6*l.* 10s., y.r. 40*l.*	280
Notting Hill.—34 and 36, Holland Park-av., and 17, Ladbroke Terrace Mews, u.t. 18¾ yrs., g.r. 18*l.* 18s., y.r. 180*l.*	1,380

By HOLCOMBE, BETTS, & WEST.

South Kensington.—9, Selwood-pl., f. y.r. 46*l.*	850
Islington.—58, Gibson-sq., y.r. 50*l.*, also l.g.r. 9*l.*, u.t. 23 yrs., g.r. 18*l.*	355
De Beauvoir Town.—4, Balmes-rd., u.t. 22 yrs., g.r. 4*l.* 10s., y.r. 36*l.*	195
Hackney.—41, Amhurst-rd., f., y.r. 45*l.*	860

By HUMBERT & FLINT.

Elstree, Herts.—Freehold building estate, 4 a. 0 r. 24 p.	800

F. JOLLY & JAMES.

Clapton.—38, Pembury-rd., u.t. 38½ yrs., g.r. 10*l.*, p.	740
14, Gaulton-rd., f., e.r. 65*l.*	900

By FIELD & BLADES.

Norbiton, Surrey.—Asylum-rd., f.g. rents 30*l.* 18s., reversion in 56 and 76 yrs.	625
Streatham.—Ellora-rd., f.g.r. 9*l.*, reversion in 66 yrs.	195
Notting Hill.—Manchester-rd., f.g.r. 27*l.*, reversion in 59 yrs.	400
Hackney-road.—26 to 29, Arline-st., 1 to 10, Chapel-st., and 13, Chapel-pl., f., w.r. 451*l.* 2s.	4,165
14, Hassard-st., f., w.r. 39*l.*	600
Dalston.—Greenwood-rd., l.g. rents 148*l.* 17s., u.t. 47 yrs., g.r. nil	2,565
Maida-vale.—Warrington-cres., l.g.r. 20*l.*, u.t. 54 yrs., g.r. 2*l.*	335
Upton Park.—Harold-rd., l.g. rents 44*l.*, u.t. 56 yrs., g.r. 4*l.*	760

By NORTON, TRIST, & GILBERT.

Paddington.—Hazell-rd., etc., f.g. rents 33*l.*, reversion in 79 yrs.	790

By RUTLEY, SON, & VINE.

Camden Town.—28 and 30, Werrington-st., u.t. 45 yrs., g.r. 24*l.*, y.r. 88*l.*	600
61, Pratt-st., u.t. 34½ yrs., g.r. nil, y.r. 38*l.*	400
208 and 212, Gt. College-st., u.t. 36½ yrs., g.r. 12*l.*, y.r. 92*l.*	895
Hampstead Road.—70, Charrington-st., u.t. 40 yrs., g.r. 2*l.* 15s., y.r. 50*l.*	635
Caledonian Road.—8, Blundell-st., u.t. 47½ yrs., g.r. 6*l.*, w.r. 54*l.* 12s.	265
Holloway.—73, Benwell-rd., u.t. 59½ yrs., g.r. 8*l.*, q.r. 36*l.*	350

By SOUTHON & ROBINSON.

Westerham, Kent.—Froghole-la., freehold gdn. and wood land, 1 a. 3 r. 3 p., p	390
Crockham Hill, Kent.—1, 2 and 3, Owen Cottages, f., y.r. 43*l.* 11s.	700
1 and 2, Forge Cottages, and cottage adjoining, f., y.r. 67*l.* 14s.	1,420
Oakdale-la., three freehold residences, y.r. 65*l.*	1,110

By MAPLE & Co.

Redbourn, Herts.—"Foster's Farm," 86 a. 2 r. 17 p., f. £2,500
Three freehold enclosures, 48 a. 3 r. 34 p... 850

By DOUGLAS YOUNG & Co.

Brockley.—221 to 227 (odd), Brockley-rd., u.t. 68 yrs., g.r. 22*l.*, y.r. 149*l.* 1,600
Breakspeares-rd., l.g. rents 68*l.* u.t. 73 yrs., g.r. 1*l.* 10s. 1,870
Breakspeares-rd, l.g. rents 32*l.* 10s., u.t. 72 yrs., g.r. 4*l.* 550
Clapham. — Rodenhurst-rd., "Woodlands Lodge," area ¼ of an acre, f., p. 750
Clacton-on-Sea, Essex.—2, 4, and 6, Marine-parade, f., y.r. 174*l.* 10s. 2,950

By WYATT & SON (at Chichester).

New Fishbourne, Sussex.—Two freehold cottages, y.r. 23*l.* 10s. 305
"East Fields," enclosure, 5 a. 0 r. 14 p., f. 500
"Crooked Croft," 2 a. 1 r. 14 p., f. 220
"White Cross Field," 2 a. 2 r. 30 p., f. 255
Emsworth, Sussex.—Plot of building land, 0 a. 3 r. 20 p., f. 100

By W. BROWN & Co. (at Aylesbury).

Weston Turville, Bucks. — "Firs Farm," 2 a. 0 r. 4 p., f. 500
House, orchard, and three fields, 18 a. 2 r. 26 p., f. 1,700
"Marroway Field," 14 a. 3 r. 21 p., f. 825
"Rosebank," f., y.r. 20*l.* 400
Freehold house, shop and cottage, p. 400
Bierton, Bucks.—"The Poplars," and 3 acres, f., p. 825

DEBENHAM, TEWSON, & Co. (at Sandown).

Sandown, Isle of Wight.—43 and 45, High-st., (s.), area 2,000 ft., y.r. 120*l.* 2,270

KEMSLEYS' (at Romford).

Romford, Essex.—Malborough-rd., "Gordon Villa," f., w.r. 24*l.* 14s. 300
Havering-rd, "Norfolk Cottage," f., p. 200
Rainham, Essex.—1 to 6, Park-buildings, f., w.r. 85*l.* 16s. 920
1 and 2, Jessamine-villas, w.r. 49*l.* 8s., and plot of land adjoining, f. 500

By J. D. WOOD & Co. (at Buckingham).

Chetwode, Bucks. — "Manthorne Farm," 184 a. 2 r. 1 p., f. 5,000

By R. & A. G. THOROWGOOD (at Hoddesdon).

Hoddesdon, Herts.—High-st., a freehold residence, y.r. 60*l.* 1,110
Brocket-rd., the Hoddesdon Saw and Joinery Works, f., y.r. 20*l.* 535

By DANN & LUCAS (at Gravesend).

Northfleet, Kent.—Perry-st., freehold building land, 2 a. 0 r. 21 p. (with erection thereon) 750
Southfleet - rd., freehold building land, 3 a. 1 r. 18 p. 1,000
Southfleet - rd., freehold building land, 13 a. 1 r. 3 p. 2,900

June 9.—By ANLEY & Co.

Camberwell. — Ivanhoe-rd., etc., f.g. rents 24*l.* 3s., reversion in 72 yrs. 590

By BUNCH & DUKE.

Dalston.—106, Forest-rd., u.t. 47 yrs., g.r. 9*l.*, e.r. 57*l.* 12s. 380

By CHESTERTON & SONS.

Hyde Park.—11, Sussex-sq., and 49, Bathurst-mews, u.t. 34 yrs., g.r. 45*l.*, p. 4,600

By FAREBROTHER, ELLIS, & Co.

Hoxton.—Whitmore-rd., etc., l.g. rents 106*l.*, u.t. 15 yrs., g.r. 20*l.* 805

By HARDS & BRADLY.

Bermondsey.—21 and 23 Reverdy-rd., u.t. 35½ yrs., g.r. 9*l.*, y.r. 83*l.* 4s. 585
57, Fort-rd., u.t. 25 yrs., g.r. 3*l.* 15s., w.r. 39*l.* 215
Old Kent-road.—27 to 35 (odd), Ossory-rd., u.t. 35½ yrs., g.r. 25*l.*, w.r. 195*l.* 1,120
Rotherhithe.—75 to 81 (odd), Barkworth-rd., u.t. 66 yrs., g.r. 20*l.*, w.r. 135*l.* 4s. 1,010

By H. J. BLISS & SONS.

Forest Gate.—265 to 273 (odd), Strone-rd., f., w.r. 163*l.* 16s. 1,485
180 and 182, Shrewsbury-rd. (s.), u.t. 93 yrs., g.r. 12*l.*, y.r. 80*l.* 680
Clapton.—44, Pembury-rd., u.t. 37½ yrs., g.r. 15*l.* 10s., e.r. 110*l.* 655

By JENKINS & SONS.

Brockley.—44, Breakspears-rd., u.t. 70 yrs., g.r. 11*l.*, p. 955
12, Cranfield-rd., u.t. 62½ yrs., g.r. 5*l.* 10s., y.r. 35*l.* 345
Cranfield-rd., l.g.r. 15*l.* 10s., u.t. 62½ yrs., g.r. 1*l.* 255
16, Foxberry-rd., u.t. 60 yrs., g.r. 4*l.*, e.r. 30*l.* 260

C. C. & T. MOORE.

Winchmore Hill.—Green Lanes, "The Cedars," and 1½ acre, f., p. 2,525
Mile End.—124, Devonshire-st., u.t. 32 yrs., g.r. 2*l.*, y.r. 24*l.* 265
92, Bridge-st. (s.), u.t. 55½ yrs., g.r. 3*l.*, y.r. 55*l.* 730
29 and 33, Mossford-st., u.t. 55½ yrs., g.r. 10*l.* 10s., w.r. 78*l.* 600
33 and 35, Cephas-st., u.t. 26 yrs., g.r. 10s., y.r. 54*l.* 555
Old Ford.—Milton-rd., f.g.r. 65*l.*, reversion in 27 yrs. 1,650
Poplar.—Brunswick-st., f.g.r. 12*l.* 3s., reversion in 16 yrs. 700
Canning Town.—22 to 36 (even), Roscoe-st. (including the "Yorkshire Grey" b.h.), u.t. 46 yrs., g.r. 16*l.* 16s., y.r. 154*l.* 14s. 1,250
Stoke Newington.—23, Victoria-gr., u.t. 37 yrs., g.r. 5*l.*, w.r. 27*l.* 6s. 200
Leytonstone.—Wallwood-rd., "Inchcolm," f., p. 760

By NEWBON, EDWARDS, & SHEPHARD.

Marylebone.—6 and 7, Gt. James-st. (s.), f., y.r. 80*l.* 1,230
Holloway.—7, 8, and 9, Williamson-st., u.t. 41½ yrs., g.r. 15*l.*, y.r. 108*l.* 860
Caledonian-road.—10, Sutterton-st., u.t. 43 yrs., g.r. 6*l.*, y.r. 32*l.* 305
Barnsbury.—6, Richmond-st., u.t. 37½ yrs., g.r. 8*l.*, y.r. 45*l.* 335
Holloway.—1, Stonenest-st., u.t. 61 yrs., g.r. 6*l.* 6s., y.r. 39*l.* £330
Stroud Green.—23, Marquis-rd., u.t. 62½ yrs., g.r. 6*l.* 6s., y.r. 39*l.* 370
Crouch-hill.—35, 37, and 39, Heathville-rd., u.t. 93 yrs., g.r. 27*l.*, y.r. 159*l.* 1,670
Canonbury.—9, Northampton-pk., u.t. 22 yrs., g.r. 5*l.*, y.r. 55*l.* 390
Islington.—314A, 316, and 318, Essex-rd. (s.), and 156, Church-rd. (stabling), u.t. 18 yrs., g.r. 150*l.*, y.r. 309*l.* 1,000

By STIMSON & SONS.

Sydenham.—1 to 40, Stanton-sq., u.t. 65 yrs., g.r. 181*l.* 10s., w.r. 955*l.* 10s. 4,000
Clapham.—High-st., f.g.r. 5*l.* 12s., reversion in 6 yrs. 2,250
Camberwell.—134 to 154 (even), Southampton-st., f., y.r. 278*l.* 8s. 3,450
37, Elmington-rd., u.t. 68½ yrs., g.r. 5*l.* 5s., w.r. 41*l.* 12s. 295
10 to 34 (even), 14A and 16A, Diamond-st., u.t. 43½ yrs., g.r. 63*l.* 10s., y.r. 402*l.* 2s. 2,280
Dulwich.—28 to 38 (even), Landells-rd., u.t. 73½ yrs., g.r. 27*l.*, w.r. 187*l.* 4s. 1,195
Peckham.—102, Shenley-rd., u.t. 72½ yrs., g.r. 6*l.*, y.r. 38*l.* 375

By G. A. WILKINSON & SON.

New Bond-street. — 44, Conduit-st. (shop and gallery), area 2,646 ft., Corporation leasehold, g.r. 9*l.* 7s. 6d., fine 65*l.* 12s. 6d., y.r. 600*l.* 13,900
23, Conduit-st. (s.), area 1,205 ft., Corporation lease, g.r. 5*l.*, fine 35*l.*, y.r. 350*l.* 8,200
20, Brook-st. (s.), area 638 ft., Corporation lease, g.r. 3*l.* 2s. 6d., fine 21*l.* 17s. 6d., y.r. 250*l.* 6,250
Brighton.—161, North-st., and 1, New-rd. (s.), f., y.r. 350*l.* 7,550

By W. BROWN & Co. (at Tring).

Wendover, etc., Bucks.—"Milesfield Farm," 69 a. 1 r. 12 p., f. 1,850
Northchurch, Herts.—2, River-ter., f., w.r. 6*l.* 18s. 8d. 120

By ELLIOTT, ELLIS, & Co. (at Plymouth).

St. Stephen's, Cornwall.—"Carkeel Estate," 136 acres, f. 3,750

June 10.—By C. RAWLEY CROSS & Co.

Shepherd's Bush.—1 to 10, Loris-rd., u.t. 72½ yrs., g.r. 10*l.*, y.r. 458*l.* 5,775

By HAMPTON & SONS.

Chalfont St. Giles, Bucks.—A freehold meadow, 6 a. 1 r. 0 p. 310
"Misbourne Farm," 33 a. 3 r. 8 p., f., ... 1,650
1, 2, and 3, Harewood-cottages, f., w.r. 19*l.* 10s. 350
Chalfont St. Peter, Bucks.—A freehold water meadow, 7 a. 3 r. 20 p. 400
Amersham, Bucks.—A freehold water meadow, 3 a. 2 r. 27 p. 130

By HARMAN BROS.

Teddington, Middx.—12, Anlaby-rd., u.t. 75½ yrs., g.r. 7*l.* 10s., e.r. 35*l.* 275

By JONES, LANG, & Co.

Hornsey Rise.—Hornsey - la., "Hawthorne Bank," u.t. 63½ yrs., g.r. 20*l.*, p. 800

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; b.h. for beer-house; p.h. for public-house; o. for offices; s. for shops; ct. for court.

TO CORRESPONDENTS.

F. B.—T. J. S.—A. A. W. (Below our limit).

NOTE.—The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, manuscripts, or other documents, sent to or left at this office, unless he has specially asked for them.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

MEETINGS.

SATURDAY, JUNE 18.

Royal Institute of British Architects.—The President's "At Home," 8.30 to 11 p.m. Exhibition of Architects' Sketches. (The Memorial to Mr. F. C. Penrose in the Crypt of St. Paul's to be Unveiled at 3.30 p.m.)

Architectural Association.—Visit to Penshurst.

Edinburgh Architectural Association (Associates' Section).—Visit to Donibristle.

St. Paul's Ecclesiological Society.—Visit to Littleton, Middlesex, under the guidance of Mr. T. Garratt. A train leaves Waterloo, North Station, at 2.15 p.m.

MONDAY, JUNE 20.

Royal Institute of British Architects.—(1) A Special General Meeting to confirm as required by Clause 33 of the Charter, the Resolution passed at the Meeting of the 6th June with respect to the addition to the first clause of By-law 3; (2) Sixteenth General Meeting (Ordinary) to present the Royal Gold Medal for the promotion of Architecture, conferred by His Majesty the King, to M. Auguste Choisy (Hon. Corr. M.), Inspecteur-Général honoraire des Ponts et Chaussées, Paris. 8 p.m.

WEDNESDAY, JUNE 22.

Builders' Foremen and Clerks of Works' Institution.—Half-yearly Meeting of the Directors. 8 p.m.

SATURDAY, JUNE 25.

Edinburgh Architectural Association.—Annual Excursion, to (1) Glamis Castle, (2) Restenneth Priory.

Junior Institution of Engineers.—Visit to the Chelsea Generating Station of the Underground Electric Railways Company of London, Lot's-road, Chelsea. 3 p.m.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and Quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.			
Hard Stocks	1 16 0	per 1000	alongside, in river.	
Rough Stocks and Grizzles	1 13 0	,,	,,	,,
Facing Stocks	2 12 0	,,	,,	,,
Shippers	2 10 0	,,	,,	,,
Flettons	1 10 0	,,	at railway depôt.	
Red Wire Cuts	1 13 0	,,	,,	,,
Best Fareham Red	3 12 0	,,	,,	,,
Best Red Pressed Ruabon Facing	5 0 0	,,	,,	,,
Best Blue Pressed Staffordshire	4 4 0	,,	,,	,,
Do. Bullnose	4 10 0	,,	,,	,,
Best Stourbridge Fire Bricks	4 8 0	,,	,,	,,
GLAZED BRICKS.				
Best White and Ivory Glazed Stretchers	13 0 0	,,	,,	,,
Headers	12 0 0	,,	,,	,,
Quoins, Bullnose, and Flats	17 0 0	,,	,,	,,
Double Stretchers	19 0 0	,,	,,	,,
Double Headers	16 0 0	,,	,,	,,
One Side and two Ends	15 0 0	,,	,,	,,
Two Sides and one End	19 0 0	,,	,,	,,
Splays, Chamferred, Squints,	20 0 0	,,	,,	,,
Best Dipped Salt Glazed Stretchers, and Header Quoins, Bullnose, and Flats	20 0 0	,,	,,	,,
Double Stretchers	12 0 0	,,	,,	,,
Double Headers	14 0 0	,,	,,	,,
One Side and two Ends	15 0 0	,,	,,	,,
Two Sides and one End	15 0 0	,,	,,	,,
Splays, Chamferred, Squints,	14 0 0	,,	,,	,,
Second Quality White and Dipped Salt Glazed	2 0 0	,,	less than best.	

	s. d.		
Thames and Pit Sand	7 3	per yard,	delivered.
Thames Ballast	6 0	,,	,,
Best Portland Cement	30 0	per ton,	,,
Best Ground Blue Lias Lime	21 0	,,	,,

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime.....12s. 0d. per yard, delivered.
Stourbridge Fireclay in sacks 27s. 6d. per ton at rly. dpt.

STONE.

	s. d.		
BATH STONE—delivered on road waggons, Paddington Depôt	1 6½	per ft. cube.	
Do. do. delivered on road waggons, Nine Elms Depôt	1 8½	,,	,,
PORTLAND STONE (20 ft. average)—Brown Whitbed, delivered on road waggons, Paddington depôt, Nine Elms depôt, or Pimlico Wharf	2 1	,,	,,
White Basebed, delivered on road waggons, Paddington depôt, Nine Elms depôt, or Pimlico Wharf	2 2½	,,	,,

	s. d.		
Ancaster in blocks	1 11	per ft. cube,	deld. rly. depôt.
Beer ,,	1 6	,,	,,
Greenshill ,,	1 10	,,	,,
Darley Dale in blocks	2 4	,,	,,
Red Corsehill ,,	2 5	,,	,,
ClaxeburnRedFreestone	2 0	,,	,,
Red Mansfield ,,	2 4	,,	,,

YORK STONE—*Robin Hood Quality*

	s. d.		
Scappled random blocks	2 10	per ft. cube,	,,
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 3	per foot super.	,,
6 in. rubbed two sides ditto, ditto	2 6	,,	,,
3 in. sawn two sides slabs (random sizes)	0 11½	,,	,,
2 in. to 2½ in. sawn one side slabs (random sizes)	0 7½	,,	,,
1½ in. to 2 in. ditto, ditto	0 6	,,	,,
HARD YORK—			
Scappled random blocks	3 0	per ft. cube,	,,
6 in. sawn two sides, landings to sizes (under 40 ft. super.)	2 8	per ft. super.	,,

STONE.—(continued).

	s. d.		
6 in. rubbed two sides			
Ditto	3 0	per ft.sup.	deld.rly.depot.
3 in. sawn two sides (slabs random sizes)	1 2	,,	,,
9 in. self-faced random flags	0 5	,,	,,
Hopton Wood (Hard Bed) in blocks	2 3	per ft. cube.	
,, ,, ,, 6 in. sawn both sides	landings 2 7	deld. rly. depôt per ft. super.	
,, ,, ,, 3 in.	do. 1 2½	,,	deld. rly. depôt ,,

SLATES.

in. in.	£ s. d.	
20 x 10 best blue Bangor	13 2 6	per 1000 of 1200 at r. d.
20 x 12 ,, ,,	13 17 6	,, ,,
20 x 10 first quality ,,	13 0 0	,, ,,
20 x 12 ,, ,, ,,	13 15 0	,, ,,
16 x 8 ,, ,, ,,	7 5 0	,, ,,
20 x 10 best blue Portmadoc	12 12 6	,, ,,
16 x 8 ,, ,,	6 12 6	,, ,,
20 x 10 best Eureka unfading green	15 17 6	,, ,,
20 x 12 ,, ,,	18 7 6	,, ,,
18 x 10 ,, ,,	13 5 0	,, ,,
16 x 8 ,, ,,	10 5 0	,, ,,
20 x 10 permanent green	11 12 6	,, ,,
18 x 10 ,, ,,	9 12 6	,, ,,
16 x 8 ,, ,,	6 12 6	,, ,,

TILES.

	s. d.		
Best plain red roofing tiles	42 0	per 1000 at	rly. depôt.
Hip and Valley tiles	3 7	per doz.	,, ,,
Best Broseley tiles	50 0	per 1000	,, ,,
Do. Ornamental tiles	52 6	,,	,, ,,
Hip and Valley tiles	4 0	per doz.	,, ,,
Best Ruabon red, brown, or brindled do. (Edwards)	57 6	per 1000	,, ,,
Do. Ornamental do	60 0	,,	,, ,,
Hip tiles	4 0	per doz.	,, ,,
Valley tiles	3 0	,,	,, ,,
Best Red or Mottled Stafford shire do. (Peakes)	51 9	per 1000	,, ,,
Do. Ornamental do	54 6	,,	,, ,,
Hip tiles	4 1	per doz.	,, ,,
Valley tiles	3 8	,,	,, ,,
Best "Rosemary" brand plain tiles	48 0	per 1000	,, ,,
Best Ornamental tiles	50 0	,,	,, ,,
Hip tiles	4 0	per doz.	,, ,,
Valley tiles	3 8	,,	,, ,,
Best "Hartshill" brand plain tiles, sand faced.	50 0	per 1000	,, ,,
Do. pressed	47 6	,,	,, ,,
Do. Ornamental do	50 0	,,	,, ,,
Hip tiles	4 0	per doz.	,, ,,
Valley tiles	3 6	,,	,, ,,

WOOD.

	At per standard. £ s. d.	£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in	15 10 0	16 10 0
Deals: best 3 by 4	14 10 0	15 10 0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	11 10 0	12 10 0
Battens: best 2½ by 6 and 3 by 6	0 10 0	less than 7 in. and 8 in.
Deals: seconds	1 0 0	less thn best
Battens: seconds	0 10 0	,, ,,
2 in. by 4 in. and 2 in. by 6 in.	9 0 0	9 10 0
2 in. by 4½ in. and 2 in. by 5 in.	8 10 0	9 10 0
Foreign Sawn Boards—		
1 in. and 1¼ in. by 7 in.	0 10 0	more than battens.
¾ in.	1 0 0	,,
	At per load of 50 ft.	
Fir timber: best middling Danzig or Memel (average specification)	4 10 0	5 0 0
Seconds	4 5 0	4 10 0
Small timber (8 in. to 10 in.)	3 12 6	3 15 0
Small timber (6 in. to 8 in.)	3 0 0	3 10 0
Swedish balks	2 15 0	3 0 0
Pitch-pine timber (30 ft. average)	3 5 0	3 15 0
JOINERS' WOOD.		
White Sea: first yellow deals,	At per standard.	
3 in. by 11 in.	23 0 0	24 0 0
3 in. by 9 in.	21 0 0	22 10 0
Battens, 2½ in. and 3 in. by 7 in.	17 0 0	18 10 0
Second yellow deals, 3 in. by 11 in.	18 10 0	20 0 0
,, ,, 3 in. by 9 in.	17 10 0	19 0 0
Battens, 2½ in. and 3 in. by 7 in.	13 10 0	14 10 0
Third yellow deals, 3 in. by 11 in. and 9 in.	15 10 0	16 10 0
Battens, 2½ in. and 3 in. by 7 in.	11 10 0	12 10 0
Petersburg: first yellow deals, 3 in. by 11 in.	21 0 0	22 10 0
Do. 3 in. by 9 in.	18 0 0	19 10 0
Battens	13 10 0	15 0 0
Second yellow deals, 3 in. by 11 in.	16 0 0	17 0 0
Do. 3 in. by 9 in.	14 10 0	16 0 0
Battens	11 0 0	12 10 0
Third yellow deals, 3 in. by 11 in.	13 10 0	14 0 0
Do. 3 in. by 9 in.	13 0 0	14 0 0
Battens	10 0 0	11 0 0
White Sea and Petersburg:—		
First white deals, 3 in. by 11 in.	14 10 0	15 10 0
,, ,, 3 in. by 9 in.	13 10 0	14 10 0
Battens	11 0 0	12 0 0
Second white deals, 3 in. by 11 in.	13 10 0	14 10 0
,, ,, 3 in. by 9 in.	12 10 0	13 10 0
,, ,, battens	9 10 0	10 10 0
Pitch-pine: deals	16 10 0	20 0 0
Under 2 in. thick extra	0 10 0	1 0 0
Yellow Pine—First, regular sizes	35 0 0	upwards.
Oddments	24 0 0	26 0 0
Seconds, regular sizes	26 10 0	28 10 0
Yellow Pine oddments	22 0 0	24 0 0
Kauri Pine—Planks, per ft. cube	0 3 6	0 5 0
Danzig and Stettin Oak Logs—		
Large, per ft. cube	0 2 6	0 3 6
Small ,, ,,	0 2 3	0 2 6
Wainscot Oak Logs, per ft. cube.	0 5 0	0 5 6
Dry Wainscot Oak, per ft. sup. as inch	0 0 7	0 0 8
¾ in. do. do.	0 0 6½	—

WOOD.—(continued).

	At per standard. £ s. d.	£ s. d.
Dry Mahogany—Honduras, Tabasco, per ft. super. as inch	0 0 9	0 0 11
Selected, Figury, per ft. sup. as inch	0 1 6	0 2 0
Dry Walnut, American, per ft. sup. as inch	0 0 10	0 1 0
Teak, per load	17 0 0	21 0 0
American Whitewood Planks—per ft. cube	0 4 0	—
Prepared Flooring—	Per square.	
1 in. by 7 in. yellow, planed and shot	0 13 6	0 17 6
1 in. by 7 in. yellow, planed and matched	0 14 0	0 18 0
1¼ in. by 7 in. yellow, planed and matched	0 16 0	1 0 0
1 in. by 7 in. white, planed and shot	0 12 0	0 14 6
1 in. by 7 in. white, planed and matched	0 12 6	0 15 0
1¼ in. by 7 in. white, planed and matched	0 15 0	0 16 6
¾ in. by 7 in. yellow, matched and beaded or V-jointed brds.	0 11 0	0 13 6
¾ in. by 7 in. do. do. do.	0 14 0	0 18 0
1 in. by 7 in. white do. do.	0 10 0	0 11 6
1 in. by 7 in. do. do. do.	0 11 6	0 13 6

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £ s. d.		£ s. d.
Rolled Steel Joists, ordinary sections	6 5 0	...	7 5 0
Compound Girders, ordinary sections	8 2 6	...	9 5 0
Angles, Tees and Channels, ordinary sections	7 17 6	...	8 17 6
Flitch Plates	8 5 0	...	8 15 0
Cast Iron Columns and Stanchions including ordinary patterns	7 2 6	...	8 5 6

METALS.

	Per ton, in London. £ s. d.		£ s. d.
IRON—			
Common Bars	7 5 0	...	7 15 0
Staffordshire Crown Bars, good merchant quality	7 15 0	...	8 5 0
Staffordshire "Marked Bars"	10 0 0	...	—
Mild Steel Bars	8 15 0	...	9 5 0
Hoop Iron, basis price	9 5 0	...	9 10 0
,, ,, Galvanized	17 10 0	...	—
("And upwards, according to size and gauge.)			
Sheet Iron (Black)—			
Ordinary sizes to 20 g.	9 15 0	...	—
,, ,, 24 g.	10 15 0	...	—
,, ,, 26 g.	12 5 0	...	—
Sheet Iron, Galvanised, flat, ordinary quality—			
Ordinary sizes—6 ft. by 2 ft. to 3 ft. to 20 g.	12 15 0	...	—
Ordinary sizes to 22 g. and 24 g.	13 5 0	...	—
,, 26 g.	14 5 0	...	—
Sheet Iron, Galvanised, flat, best quality—			
Ordinary sizes to 20 g.	16 0 0	...	—
,, ,, 22 g. and 24 g.	16 10 0	...	—
,, ,, 26 g.	18 0 0	...	—
Galvanised Corrugated Sheets—			
Ordinary sizes 6 ft. to 8 ft. 20 g.	12 10 0	...	—
,, ,, 22 g. and 24 g.	13 0 0	...	—
,, ,, 26 g.	13 15 0	...	—
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	11 15 0	...	—
Best Soft Steel Sheets, 22 g. & 24 g.	12 15 0	...	—
,, ,, 26 g.	14 0 0	...	—
Cut nails, 3 in. to 6 in.	9 0 0	...	9 10 0

(Under 3 in., usual trade extras.)

LEAD, &c.

	Per ton, in London. £ s. d.		£ s. d.
LEAD—Sheet, English, 3lb. and up	14 10 0	...	—
Pipe in coils	15 0 0	...	—
Soil pipe	17 10 0	...	—
Compo pipe	17 10 0	...	—
ZINC—Sheet—			
Vieille Montagne ton	27 5 0	...	—
Silesian	27 0 0	...	—
COPPER—			
Strong Sheet per lb.	0 0 10½	...	—
Thin ,, ,,	0 0 11½	...	—
Copper nails ,,	0 0 11	...	—
BRASS—			
Strong Sheet ,,	0 0 10	...	—
Thin ,, ,,	0 0 11	...	—
TIN—English Ingots ,,	0 1 4	...	—
SOLDER—Plumbers' ,,	0 0 6½	...	—
Tinmen's ,,	0 0 8	...	—
Blowpipe ,,	0 0 9	...	—

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	2½d. per ft. delivered.
,, fourths	1¾d. ,, ,,
21 oz. thirds	3¼d. ,, ,,
,, fourths	2¾d. ,, ,,
26 oz. thirds	4d. ,, ,,
,, fourths	3¼d. ,, ,,
32 oz. thirds	5d. ,, ,,
,, fourths	4¼d. ,, ,,
Fluted Sheet, 15 oz.	3d. ,, ,,
,, 21 oz.	4d. ,, ,,
¼ Hartley's Rolled Plate	1¾d. ,, ,,
⅛ ,, ,, ,,	1¾d. ,, ,,
,, ,, ,,	2¾d. ,, ,,

OILS, &c.

		£ s. d.
Raw Linseed Oil in pipes or barrels	per gallon	0 1 5
,, ,, in drums	,,	0 1 8
Boiled ,, in pipes or barrels	,,	0 1 8
,, ,, in drums	,,	0 1 11
Turpentine, in barrels	,,	0 3 7
,, in drums	,,	0 3 9
Genuine Ground English White Lead	per ton	19 0 0
Red Lead, Dry	,,	19 0 0
Best Linseed Oil Putty	per cwt.	0 6 6
Stockholm Tar	per barrel	1 12 0

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0

VARNISHES, &c.—(continued).

	Per Gallon. £ s. d.
Superfine Hard-drying Oak, for seats of Churches	0 14 0
Fine Elastic Carriage	0 12 6
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 16 0
Finest Pale Durable Copal	0 18 0
Extra Pale French Oil	1 1 0
Eggshell Flatting Varnish	0 18 0
White Copal Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 6
Berlin Black	0 16 0
Knotting	0 10 0
French and Brush Polish	0 10 0

PUBLISHER'S NOTICES.

Nat. Tel., 6112, Gerrard. Telegrams, "The Builder, London."

THE INDEX (with TITLE-PAGE) for VOLUME LXXXV. (July to December, 1903) was given as a supplement with issue of January 9 last.

CLOTH CASES for Binding the Numbers are now ready, price 3s. 6d. each; also

READING CASES (Cloth), with Strings, price 9d. each.

THE EIGHTY-FIFTH VOLUME of "The Builder" (bound), price Twelve Shillings and Sixpence.

SUBSCRIBERS' VOLUMES, on being sent to the Office, will be bound at a cost of 3s. 6d. each.

CHARGES FOR ADVERTISEMENTS.

COMPETITIONS, CONTRACTS, ALL NOTICES ISSUED BY CORPORATE BODIES, COUNTY AND OTHER COUNCILS, PROSPECTUSES OF PUBLIC COMPANIES, SALES BY TENDER, LEGAL ANNOUNCEMENTS, &c., &c.

Six lines, or under	6s. 0d.
Each additional line	1s. 0d.

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Terms for series of Trade advertisements, and for front page, and other special positions, on application to the Publisher.

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Each additional line (about ten words)	0s. 6d.

PREPAYMENT IS ABSOLUTELY NECESSARY.

*** Stamps must not be sent, but all sums should be remitted by Postal Orders, payable to J. MORGAN, and addressed to the Publisher of "THE BUILDER," Catherine Street, W.C.

Advertisements for the current week's issue are received up to THREE o'clock p.m. on THURSDAY, but "Classification" is impossible in the case of any which may reach the Office after HALF-PAST ONE p.m. on that day. Those intended for the Outside Wrapper should be in by TWELVE noon on WEDNESDAY.

ALTERATIONS IN STANDING ADVERTISEMENTS or ORDERS TO DISCONTINUE same must reach the Office before TEN o'clock on WEDNESDAY MORNING.

The Publisher cannot be responsible for DRAWINGS, TESTIMONIALS, &c., left at the Office in reply to advertisements, and strongly recommends that of the latter COPIES ONLY should be sent.

PERSONS advertising in "THE BUILDER" may have *Replies addressed to the Office*, Catherine Street, Covent Garden, W.C., *free of charge*. Letters will be forwarded if addressed envelopes are sent, together with sufficient stamps to cover the postage. Unused stamps are returned to advertisers the week after publication.

AN EDITION Printed on THIN PAPER, for FOREIGN and COLONIAL CIRCULATION, is issued every week.

READING CASES { NINEPENCE EACH. By post (carefully packed) 1s.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays*. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under 100*l*., unless in some exceptional cases and for special reasons.]

* Denotes *accepted*. † Denotes *provisionally accepted*.

BRENTWOOD (Essex).—For the erection of auction mart, The Parade. Mr. Hugo R. Bird, architect, St. Thomas'-gate, Brentwood:—

S. Parmenter	£429 16	F. W. Jarvis	£384 0
W. Harbrow	423 0	F. W. Burtwell,	
E. Dix	420 0	Brentwood*	355 0

BRENTWOOD (Essex).—For the erection of brigade hall, The Parade. Mr. Hugo R. Bird, architect, St. Thomas'-gate, Brentwood:—

W. Harbrow	£432 0	F. W. Jarvis	£395 0
S. Parmenter	424 16	F. W. Burtwell	
E. Dix	409 0	Brentwood*	395 0

CHELSFIELD (Kent).—For additions and alterations to the Bull's Head, Pratt's Bottom. Mr. G. St. Pierre Harris, architect and surveyor, 8, Ironmonger-lane, E.C., and Orpington:—

T. D. Graty	£895 0	C. Dalner	£772 0
E. Martin & Son	875 0	W. Owen	749 7
H. Somerford & Son	848 0	Stebbings & Pannett	738 0
R. A. Lowe	789 0	W. Hodges*	705 0

CHISLEHURST (Kent).—For additions to a private residence, and external works. Mr. G. St. Pierre Harris, architect and surveyor, 8, Ironmonger-lane, E.C., and Orpington:—

T. Rider & Son	£809 0	Stebbings & Pannett‡	£452 0
B. J. White & Son	645 0		
R. A. Lowe	624 18		

‡ Accepted for additions only.

CORK.—For alterations and additions to Castle View, Passage West, for Dr. Beamish. Messrs. W. H. Hill & Son, architects, 28, South-mall, Cork:—

F. Dolan, builder, Queenstown, co. Cork* £569

COWPEN.—For making-up streets, for the Urban District Council. Mr. R. Grieves, Surveyor, Seaforth-street, Waterloo, Blyth :—

G. E. Simpson	£795 13 4	J. Robson, New-castle-on-Tyne*	£661 18 0
J. Shannon	736 10 5		

EDMONTON. — For an additional story to the maternity wards at the workhouse, Upper Edmonton, N., for the Guardians of the Edmonton Union. Mr. T. E. Knightley, architect, 106, Cannon-street, E.C. Quantities by Mr. Joseph Peebles, 26, John-street, Bedford-row, London, W.C. :—

General Builders, Ltd.	£3,379 0 0	W. Lawrence & Son	£2,938 0 0
J. Thomas	3,301 11 0	Pavey & Son	2,906 0 0
A.E.Townsend & Coles	3,273 0 0	C. R. Price	2,857 0 0
A. Fairhead & Son	3,114 0 0	Banyard & Son	2,843 0 0
Green & Smith	2,998 0 0	S. L. Grist	2,678 0 0
A. Porter	2,991 0 0	H. Knight & Son, Tottenham*	2,550 0 0
A. Monk	2,989 0 0		

ENNISKILLEN. — For alterations, repairs, and painting to Protestant Hall. Mr. T. Elliott, architect, Darling-street, Enniskillen :—

J. Harvey, Enniskillen	£330 11 8	J. Hynes & Sons	£324 15 6
		J. Donnelly	284 13 0

[The Committee struck out some of the works contemplated, and have arranged with Mr. Harvey to carry out the remainder for the amount of £240 4s. 1d.]

GATESHEAD.—For the enlargement of the Nuns Lane school, for the Education Committee. Mr. F. W. Purser, architect, 10, West-street, Gateshead :—

E. T. George	£1,050	T. Hutchinson	£958
J. Hymers & Co.	1,046	W. Jackson	950
Stephen Buy	1,038	W. C. Tyrie	931
Elliot Brothers	1,034	(Unsigned)	929
Emmet & Co.	1,028	John Milne	921
Raven & Hitcham	996	W. Hall	905
J. Lunn	993	T. Hunter	901
R. Veitch & Sons	987	S. Davidson	890
J. Ross & Son	984	H. & B. Arkless, Gateshead*	889
R. Harris & Son	971	J. McGowan	888
I. Bewley	965		

GILFACH BARGOED (Wales).—For making new road, laying main drains, etc., for Mr. A. C. Thomas. Mr. W. Harris, architect and surveyor, Gilfach Bargoed :—

Price & Smith	£258 8 0	Wilkins & Cooper	£207 7 0
F. Ashley	254 1 3	Barry & Poole‡	
W. Lewis	235 18 0	Barnes, Chaplin, & Co., Cardiff*	199 0 0
J. Powell	227 17 0		
E. Edwards	221 18 6		
L. P. Edwards	219 1 8		
D. G. Vaughan	217 0 0		

‡ Scheduled.

GORTON.—For erecting offices, etc., at the St. George's School, Abbey Hey, for the Education Committee. Mr. J. W. Wiles, Surveyor, Town Hall, Gorton :—

G. Ginger, Longsight, Manchester* £175 10

GRAVESEND.—For alterations and additions to out-patient block, for the Committee. Mr. W. M. Dean, architect, 21, Park-place, Gravesend. Quantities by Messrs. J. Gandy & Bennison, 22, Essex-street, Strand, W.C. :—

Myall & Upson	£2,300 0 0	Beal & Hubbard	£1,673 0 0
W. Manders	2,137 5 10	Multon & Wallis	1,618 0 0
J. M. Dering	1,900 0 0	G. Browning	1,567 0 0
B. E. Nightingale	1,688 0 0	W. H. Archer & Son, Gravesend*	1,495 0 0
Thomas & Edge	1,681 0 0		
A. E. Tong	1,674 1 5		

GRIMSBY.—For horse-keeper's house, for the Corporation Sanitary Committee. Mr. H. Gilbert Whyatt, Borough Engineer and Surveyor, Town Hall-square, Grimsby :—

B. Nightingale	£415 8 9	F. Swallow	£354 19 8
G. Cook	365 0 0	J. Markham	333 15 0
Holmes & Richardson	356 10 0	T. R. Waterman, Grimsby*	323 10 0

GRIMSBY.—For new urinal, Convamore-road, for the Corporation. Mr. H. Gilbert Whyatt, Borough Engineer and Surveyor :—

Hewins & Goodhand	£245 0 0
T. R. Waterman	228 15 0
Gilbert & Kirton	226 10 0
W. Burkitt, Hull*	215 19 9

HORTON.—For plumber, plasterer, and slater work for eleven houses in Arncliffe-terrace. Mr. W. Rycroft, architect, Bank-buildings, Manchester-road, Bradford :—

Plumbing, etc.

G. T. Smith, 20, Whetley-hill, Bradford £380

Plasterer and Concreter.

C. Marsden & Son, Cecil-avenue, Bradford .. 275

Slaters (for Westmoreland slates).

T. Nelson & Son, Springfield-place, Bradford 245

HULL.—For erecting schools, Hawthorn-avenue, for the Trustees of the Primitive Methodist Connexion. Mr. T. Beecroft Atkinson, architect, 11, Trinity House-lane, Hull :—

Builder : J. T. Levitt, 84, Holderness-road	Total cost. £2,986 1 5
Joiner : G.W. Berridge, 64, Holderness-road	
Plumber : F. Abba, Charlotte-street	
Painter : J. Porter, J.P., Holderness-road	
Stonemason : J. Peers, 144, Beverley-road	
Slater : Smith & Hunter, 25, Anlaby-road	

[All of Hull.]

IPSWICH.—For alterations and additions to laundry at St. John's Home, Ipswich, for the Board of Guardians of the Ipswich Union. Mr. Henry J. Wright, architect, 4, Museum-street, Ipswich. Quantities by the architect :—

A. Sadler	£1,070	T. Parkington & Son	£1,000
J. C. Smith	1,057	G. Grimwood & Sons*	997
H. J. Linzell	1,057		
Cubitt & Gotts	1,005		

[All of Ipswich.]

KEIGHLEY.—For erecting two phthisis pavilions at the Union Infirmary, and tailors' workroom, etc., at the workhouse, for the Guardians. Messrs. Moore & Crabtree, architects, York-chambers, Keighley :—

Excavators and Masons : Smith Sharp, Oakworth, Keighley	£291 1 5
Joiners : J. Driver & Son, Goulbourne-street, Keighley	200 5 11
Slaters : W. H. & E. Walton, Ashfield-terrace, Bingley	51 17 0
Plumbers : W. & J. Harrison, 23, South-street, Keighley	63 10 0
Plasterers : J. King, Russell-street, Keighley	69 0 0

KILMARNOCK.—For laying footpaths, for the Town Council. Mr. R. Blackwood, Burgh Surveyor, Market Bridge, Kilmarnock :—

	Per sq. yd. s. d.
Concrete Work.	
Boyd & Forrest, Kilmarnock	3 8½
Staffordshire Pavings.	
M. Muir & Co., Kilmarnock	3 10

LAISTERDYKE.—For extension of mill at New-lane Mills. Messrs. T. Barker & Son, engineers and architects, 5, Bank-street, Bradford :—

Mason's and Joiner's Work : H. Waterhouse & Sons, Tong-street, Bradford*	£1543 0
Iron and Steel Work : Roberts & Co., Ltd., Dudley-hill, Bradford*	639 10
Slater's Work : Hill & Nelson, Bradford*	60 0
Plumber's and Glazier's Work : J. Dyson, Baildon*	56 0
Plasterer's Work : T. Cordingley & Sons, Bradford*	21 10
Painter's Work : R. Beetham, Laisterdyke*	52 0

LARNE.—For extending the water supply, for the Urban District Council. Mr. J. H. H. Swiney, engineer, Avenue-chambers, Belfast :—

J. Graham	£3,737 6 0	J. Ross & Sons	£3,493 1 2
T. McClughan	3,648 6 0	Grainger Bros., Holywood, co. Down*	3,353 16 2
W. M'Neill & Sons	3,612 16 0	McKee & McNally	3,281 0 0
M. Green	3,607 17 2		
Higgusty & Gault	3,607 17 1		

LEYTON.—For constructing a sewer in Union-road and Downsell-road, for the Urban District Council. Mr. W. Dawson, M.Inst.C.E., Town Hall, Leyton :—

T. Adams	£1,652 5 0	G. G. Rayner	£1,471 5 0
Muirhead, Greig, & Matthews	1,580 15 0	G. Harber	1,452 7 0
J. Jackson	1,508 5 0	G. J. Anderson	1,362 6 0
G. Bell	1,496 10 0	F. J. Coxhead	1,352 0 0
Killingback & Co.	1,473 7 6	W. Manders	1,262 19 2
		O. T. Gibbons, Leytonstone*	1,191 15 0

[Surveyor's estimate, £1,260.]

LEYTON.—For private street works, for the Urban District Council. Mr. W. Dawson, Surveyor, Town Hall, Leyton :—

G. Harber	£13,869 10 0	A. W. Porter	£9,973 4 7
W. H. Wheeler	12,484 6 0	G. J. Anderson	9,964 0 4
W. Griffiths & Co., Ltd.	10,620 11 0	J. Jackson	9,445 9 0
T. Adams	10,253 2 11	W. Manders, Leyton*	8,834 6 4

[Surveyor's estimate, £9,650.]

LONDON.—For supply and erection of flag-making plant in connexion with refuse destructor at sewage works, Corney Reach, Chiswick, for the Chiswick Urban District Council. Messrs. Swinburne, Cooper, & Baillie, engineers, 82, Victoria-street, Westminster, S.W. :—

R. Taylor	£6,500
Sir Hiram Maxim Co. (Musker's plant)	880
Brightside Foundry Co.	825
C. & A. Musker, Ltd.‡	800
Fawcett, Preston, & Co.	630
Horsfall Co. (Queen's Engineering Works' plant)	625
H. Berry & Co.	560
Horsfall Co. (Fielding & Platt's plant)	529
Rice & Co.	490
Fielding & Platt, Gloucester*	481
Sutcliffe, Speakman, & Co.§	315

‡ Alternative prices, £825, £850.

§ Alternative prices, £400, £415, £500, £465.

LONDON.—For repainting works, Great Eastern-street bridge and Thames Embankment, for the London County Council :—

Vigor & Co.	£565 9 9	E. Proctor & Son	£455 0 0
W. Dudley	545 11 0	W. E. Westgate, Romford*	424 5 2
A. H. Inns	539 10 0		

LONDON.—For replacing the range of lavatory basins at the Gideon-road School, Battersea, with fireclay basins, and for carrying out other works for the London County Council :—

Whitehead & Co.*	£247

LONDON.—For repaving Wandsworth and Vauxhall (temporary) bridges, for the London County Council :—

J. Mowlem & Co.	£2,010 0 0
Improved Wood Pavement Co., Ltd.	1,513 15 0
W. Griffiths & Co.	1,487 1 8
Acme Flooring and Paving Co., Ltd., London*	1,439 3 4

LONDON. — For additional water-tube boilers, Greenwich generating-station (first portion), for the London County Council :—

J. Thompson	£27,700 0 0
Stirling Co.	23,200 0 0
Babcock & Wilcox, Ltd.	18,978 0 0
B. R. Rowland & Co., Ltd.	18,845 0 0
J. Musgrave & Sons, Ltd.	18,131 17 0
R. Hornsby & Sons, Ltd.	18,131 17 0
Richardsons, Westgarth, & Co., Ltd.	18,131 0 0
Stirling Boiler Co., Ltd., Edinburgh*	16,271 0 0

LONDON.—For alterations and addditions to Royal Court Theatre, Sloane-square, S.W. Mr. C. E. Lancaster Parkinson, architect, 44, Bedford-row, W.C. Quantities by Messrs. Young & Brown :—

Patman & Fotheringham	£4,160	H. Lovatt	£3,858
T. W. Heath & Sons	4,081	Foster Bros.	3,854
W. Willett	3,960	Leslie & Co.	3,715
Lole & Lightfoot	3,907	Spencer, Santo, & Co.	3,400
Townsend & Coles	3,893		

LONDON.—For paving works, Tooting, London County Council :—

J. G. White & Co., Ltd.*	£3,315 0 6

LONDON.—For main switchgear, Greenwich generating station (first portion), for the London County Council :—

Dick Kerr, & Co., Ltd.	£37,019 0 0	Electric Construction Co., Ltd.	32,000 0 0
Elliott Bros.	36,706 5 8	British Thomson-Houston Co., Ltd.	25,591 10 0
British Westinghouse Electric & Manufacturing Co., Ltd., London*	22,910 0 0	Cowans, Ltd.‡	3,881 0 0
Electric & Ordnance Accessories Co., Ltd‡	3,627 15 8		

‡ Incomplete Tender.

LONDON.—For building a house in Goswell-road, for the London County Council :—

F. & F. J. Wood	£2,185	F. Lapthorne & Co.	£1,958
Patman & Fotheringham	2,107	J. Grover & Son	1,885
Holloway Bros.	1,965	Stimpson & Co., London*	1,750

LONDON.—For docking and repairs of s.s. *Binnie*, for the London County Council :—

Thames Iron Works, etc., Co., Ltd.	£1,898 13 6
Brown's Dry Dock & Engineering Co., Ltd.	1,473 16 0
Mills & Knight	1,350 17 0
London Graving Docking Co., Ltd.	1,315 12 0
Fletcher, Son, & Fearnall*	1,238 0 0

LONDON.—For repairing and re-paving Chelsea Bridge, for the London County Council :—

J. Mowlem & Co.	£6,804 19 2
Acme Flooring & Paving Co., Ltd.	5,371 9 0
F. Morton & Co.	5,310 15 5
Muirhead, Greig, & Matthews, London*	4,736 11 9

LONDON.—For the erection of a warehouse, Kimberley-road, Willesden-lane, N.W., for Messrs. Lawrence & Aitken. Mr. J. Bruce Merson, architect, 76, High-road, Kilburn, N.W. Quantities by Mr. W. Prowse Broad, 3, Cromwell-grove, West Kensington Park, W. :—

Grover & Son	£3,687	Midland & Richardson	£3,260
Pearson	3,599	G. Neal	3,227
W. King & Sons	3,526	R. J. World	3,105
Godson & Sons	3,515	Perry Bros.	3,087
A. Webber	3,479	Ford & Walton	2,979
Wisdom Bros.	3,300	Braid, Pater, & Co., Ltd.*	2,970
W. Nash	3,289		

LONDON.—For erecting offices and printing works at Castle-lane, Westminster, S.W., for Messrs. Norton & Gregory, Ltd. Messrs. L. Littlewood and O. Mahoney, architects, 3A, Bank-buildings, Balham, S.W. Quantities supplied by Mr. E. H. Dance, surveyor, 185, Victoria-street, S.W. :—

T. Roberts	£7,900	F. G. Minter	£7,332
Lole & Lightfoot	7,840	Kirk & Kirk	7,187
M. Pearson	7,660	B. E. Nightingale	6,987
F. J. Chopland	7,547	Rice & Son	6,969
Patman & Fotheringham	7,480	W. H. Lorden & Son*	6,887
J. Carmichael	7,450		

MARDY (Wales).—For alteration and erection of a vestry to the Seion Baptist Chapel, Mardy :—

J. Jenkins, builder, Mardy, Glam. £852 10 0

NEWARK.—For cast-iron water mains and castings for Collingham water supply, for the Rural District Council. Messrs. H. Walker & Son, engineers, Albion-chambers, King-street, Nottingham :—

Cochrane&Co.	£1,489 14 2	Stanton Iron Works Co., Ltd.	£1,419 6 0
Clay Cross Co.	1,343 14 6	Sheepbridge Coal & Iron Co., Ltd.	1,321 8 1
Staveley Coal & Iron Co., Ltd., Chesterfield*	1,305 15 0	Butterley Co., Ltd.	1,331 16 3

NUNEATON.—For new school in Queen-road, for the Nuneaton and Chilvers Coton Urban District Council Education Committee. Mr. Harry Quick, architect, 64, Hertford-street, Coventry :—

R. Gibbs, King's Heath* £10,130

NYNEHEAD (Wellington, Somerset).—For the reconstruction of the drainage, sanitary arrangements, and alterations in the water supply at Nynehead Court, for Colonel Sanford, C.M.G. Mr. J. Moss-Flower, engineer, 2, Victoria-mansions, Westminster, and Bristol :—

L. Thomas & Son, The Triangle, Clifton, Bristol, accepted on a schedule of prices.

PERTH.—For constructing new sewers along Burnside (Craigie), Priory-place, and Glover-street, for the Town Council. Mr. R. M'Killop, Burgh Surveyor, 12, Tay-street, Perth :—

P. Girrity, West-grove, Dundee,* on schedule prices.

PETERSFIELD.—For road works, High-street, Sheep-street, and Sussex-road (taking up old pavements and repaving), for the Urban District Council. Mr. H. T. Keates, Town Surveyor, Petersfield :—

	Per yard super. s. d.
Cunningham, Forbes, & Co.	7 0
Adamant Stone Co.	6 6
Victoria Stone Co., Bishopsgate-street Without*	6 4
T. Wood & Son	6 1
H. Williams	5 11
Grounds & Newton	5 4
Stuart's Granolithic Stone Co.	4 10½

PLYMOUTH.—For the erection of a villa residence, Bainbridge-avenue, Vinstone, Plymouth. Mr. E. Coath Adams, architect, Bedford-chambers, Plymouth. Quantities by Mr. S. W. Haughton, 22, Courtenay-street, Plymouth :—

Palk & Son	£1,632	Wakeham Bros.	£1,390
J. Partridge	1,535	G. B. Turpin	1,360
J. Crockerell	1,463		

[All of Plymouth.]

TENDERS—*Continued on page* 676

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Required.	Premiums.	Designs to be Delivered
*New Public Elementary School	Stockport Education Committee	Not Stated	No date.
*Prop. New Wesley. Methd. Hall, Broadway, Westminst.	The Trustees	Not Stated	No date.

CONTRACTS.

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, etc., supplied by	Tenders to be delivered
Painting, etc., at Grange Infectious Hospital, Earsdon	Tynemouth, etc., Hospitals Comttee.	J. R. McMillan, Inspector of Hospitals, Shiremoor	June 18
Foundations of Contact House at Grange Hospital	do.	do.	do.
Plumbing, etc.	do.	do.	do.
Piled Bridge, Pier, and Two Abutments	Harrogate Corporation	E. W. Dixon, Engineer, 14, Albert-street, Harrogate	do.
10-ton Compound Steam Road Roller and Scarifier	Sleaford U.D.C.	J. Clare, Surveyor, Sleaford	do
Pit Wood, etc.	Nixon's Navigation Co., Ltd.	J. L. Herbert, Secretary, Bute Docks, Cardiff	June 20
Manure Concentrator	Warrington Corporation	R. Wilson, Longford Depot, Warrington	do.
Seven Spans, 100 ft.	Bengal & N.W. Ry. Co.	A. Izat, 237, Gresham-house, Old Broad-street, London, E.C.	do.
Switchrooms at Temple Back Electricity Works	Bristol Electrical Committee	H. Faraday Proctor, City Electrical Engineer, Temple Back, Bristol	do.
Tar Washer, Washer, Scrubber, etc.	Mountain Ash U.D.C.	Corbet Woodall & Son, Eng., Palace-chamb., Bridge-st., Westminst.	do.
Purifier, Centre Valve, etc., Penrhiwceiber	do.	do.	do.
Villa Residence, Carr-lane, Acomb, York	Mr. W. M. Holmes	M. W. Lewis, Architect, 194, Bishopthorpe-road, York	do.
Caretaker's Dwelling, etc., Bredbury Sewage Works	Bredbury and Romily U.D.C.	Council Offices, School Brow, Bredbury	do.
10-ton Weighbridge at Destructor Works	Chorley Corporation	W. Leigh, Borough Surveyor, Town Hall, Leigh	do.
Shop Premises, Jameson-street, etc., Hull	Mr. W. E. Welton	Gelder & Kitchen, Architects, 76, Lowgate, Hull	do.
Painting, etc., at Infantry Barracks, York		Royal Engineer Office, Fishergate, York	do.
Paving in Mare-street, Hackney	The L.C.C.	M. Fitzmaurice, Engineer, County Hall, Spring-gardens	June 21
Extension of Sewers in Bracknell	Easthampstead R.D.C.	C. B. Wilson, Clerk, Bracknell	do.
Wiring, etc., Technical College, Barking-road	East Ham U.D.C.	W. C. Ullmann, M.Inst.C.E., Nelson-street, East Ham, E.	do.
Main Drainage, Burford	Witney R.D.C.	H. H. Humphreys, Engineer, 28, Victoria-street, Westminster	do.
Repairs to Van at Workhouse	Brentford Guardians	Master of the Workhouse	do.
New Vans	do.	do.	do.
Stores, Iron, Timber, etc	Trimdon Coal Co.	Deaf Hill Colliery, Trimdon-grange, R.S.O.	do.
Painting, etc., Technical & Intermediate Day Schools	Bootle Corporation	Borough Engineer's Office, Town Hall, Bootle	do.
House, South Brent		Post Office, Aish	do.
Supplies	Chelmsford Corporation	Borough Surveyor, 16, London-road, Chelmsford	do.
20,000 Jarrah and Karri Wood Blocks	Southampton Corporation	J. A. Crowther, Borough Engineer, Southampton	do.
*Road-making and Paving Works	Willesden District Council	Council's Engineer, Dyne-road, Kilburn, N.W.	do.
Laying-out Land at Osmotherley for Cemetery	Northallerton R.D.C.	W. Fowle, Clerk, Northallerton	June 22
Masonry Reservoir, Chudleigh Water Supply	Newton Abbott R.D.C.	S. Segar, Engineer, Union-street, Newton Abbott	do.
Distempering, etc., of Workhouse Hospital, Knutsford	Bucklow Guardians	R. J. McBeath, Architect, Birnam House, Sale	do.
Paving with Creosoted Deal Blocks	Twickenham U.D.C.	F. W. Pearce, Surveyor, Town Hall, Twickenham	do.
Shedding, etc., Sandbach	Cheshire Agricultural Society	T. A. Beckett, Secretary, St. Werburgh-chambers, Chester	do.
Shops, Greaves-road, Lancaster	Lancaster & Skerton Co-opera. Soc.	Austin & Paley, Architects, Lancaster	do.
Premises, Chirk, Denbigh	Chirk Green Co-operative Society	J. Powell, Secretary	do.
St. Anne's Church, Bridlington	Vicar and Committee	H. M. Bennett, Architect, Liverpool-chmbrs., 36, Corn-st., Bristol	do.
600 yds. 4 in. Cast-Iron Water Mains	Epsom U.D.C.	W. Young, Manager, Waterworks	do.
9 in., 6 in., and 4 in. Cast-Iron Pipes and Specials	do.	E. R. Capon, Surveyor to Council	do.
*New Chapel in Windsor-road, Slough	Slough Baptist Church Committee	Thomas Brown, 4 and 5, Warwick-court, Gray's Inn, W.C.	June 23
Carriageways, etc., W. Allotment Streets, Long Benton	Tynemouth R.D.C.	A. S. Blaning, 21, Ellison-place, Newcastle-on-Tyne	do.
Painting Bandstand in Bank Park	Warrington Corporation	T. Longdin, Borough Engineer, Town Hall, Warrington	do.
Two Ministers' Residences (Blackhill and Consett)	Shotley Bridge Prim. Method. Trust.	Rev. F. Pickering, 10, West-view, Blackhill	do.
Motor-driven Tower Wagon	Cardiff Electric Tramway Departm't	A. Ellis, Borough Electrical Engineer, the Hayes, Cardiff	do.
Stores	Belfast Gas Committee	At the Gasworks	do.
*Extension of Isolation Hospital	Ealing Town Council	Borough Engineer, Town Hall, Ealing, W.	do.
560 yds. Ornamental Wrought Iron Railing	Rochdale Corporation	S. S. Platt, Borough Engineer, Town Hall, Rochdale	June 24
Six Wrought-Iron Gates, Falinge Park	do.	do.	do.
Wheelbarrows, Picks, Shovels, Spades, etc.	Guildford R.D.C.	Council's Surveyor, Commercial-road, Guildford	do.
Oils and Sundries for Steam Rollers	do.	do.	do.
Heating May-street Church, Belfast		J. Williamson, 46, Royal-avenue, Belfast	do.
Supplies	Halifax Gasworks Committee	J. Wilkinson, Engineer, Gasworks, Halifax	do.
1,000 Tons of Broken Granite	St. Neots U.D.C.	J. Edey, Surveyor, South-street, St. Neots, Hunts	do.
Fifty Tons of Broken Iron Slag	do.	do.	do.
Private Street Works	Dorchester Town Council	G. J. Hunt, Borough Engineer, Guildhall-chambers, Dorchester	do.
New Street, Stoneferry	Hull Corporation	A. E. White, City Engineer, Town Hall, Hull	do.
Artisans' Dwellings, Hanbury-lane, Dublin		G. T. Moore, Engineer and Architect, 1 & 2, Foster-place, Dublin	do.
*New Coastguard Buildings	Admiralty	Director of Works Department, 21, Northumberland-avenue, W.C.	June 25
Town Clock Tower, Fore-street	Redruth Coronation Committee	T. W. Joyce, Surveyor, Council Offices, Redruth	do.
Painter Work at Various Schools	Edinburgh School Board	Mr. Carfrae, 3, Queen-street, Edinburgh	do.
Painting Sessions Court	Birkenhead Corporation	C. Brownridge, Borough Engineer, Town Hall, Birkenhead	do.
Painting 725 Street Lamp Columns	Crewe Electric Lighting Committee	H. H. Denton, Corporation Electricity Works, Crewe	do.
Fencing Around Electricity Works	do.	do.	do.
Bridge over Burn of Arndilly, Boharm	Banffshire County Council	R. Davidson, Road Surveyor, Dufftown	do.
Cleaning and Painting Schools	Gateshead Education Committee	E. J. Harding, Secretary, Education Offices, Gateshead	do.
Premises, Fish Docks, Grimsby	Gt. Grimsby Albion Steam Fishing Co.	H. C. Scaping, Architect, Grimsby	do.
3,000 yds. of 4 in. c.i. Pipes	Bury and District Water Board	J. Cartwright, Engin'r, Peel-chambers, Market-place, Bury, Lancs.	do.
2,000 yds. of 6 in. c.i. Pipes	do.	do.	do.
Additions to Schoolhouse, Maggieknockater		C. C. Doig, Architect, Elgin	do.
Alterations to School Buildings, Maggieknockater		do.	do.
Alterations to School Buildings, Boharm School		do.	do.
Dwarf Wall, Cathays Park	Cardiff Corporation	W. Harpur, Borough Engineer, Town Hall, Cardiff	do.
Seventy-nine Houses at Mountain Ash	Bryngolwg Cottage Co., Ltd.	T. W. Millar, Architect and Surveyor, Mountain Ash	June 27
Sewage Farm Extension (Contract No. 3)	Burton-on-Trent Corporation	G. T. Lynam, Borough Engineer, Town Hall	do.
Taking Down and Refixing Oak Pale Fence, etc.	Surbiton U.D.C.	S. Mather, Surveyor to Council, Surbiton	do.
Lining Filter Bed at Sewage Works with Concrete	Malden and Coombe U.D.C.	T. B. Simmons, C.E., Cambridge-road, New Malden	do.
151 yds. of Iron Fencing, Dartford-road, Sevenoaks	Sevenoaks U.D.C.	S. Towlson, Surveyor, Council Offices, Sevenoaks	do.
151 yds. of Iron Rail Fence, with Oak Posts	do.	do.	do.
Road Metal	do.	do.	do.
Carting Materials, Romsey	Southampton County Council	W. J. Taylor, County Surveyor, The Castle, Winchester	do.
Parkhead District Library	Glasgow Corporation	J. R. Rhind, Architect, 67, Hope-street, Glasgow	do.
Kerbing, etc., and Making Good Five Streets	Otley U.D.C.	J. E. Sharpe, Engineer, Council Offices, Otley	do.
Paving Six Back Streets	do.	do.	do.
725 tons of Surface Dug Flints	Burgess Hill U.D.C.	A. F. Hardwick, Clerk, Burgess Hill	do.
425 tons of Dug Flints	do.	do.	do.
300 tons of 1½ in. Granite	do.	do.	do.
Class-room, West Dock-avenue Council School	Hull Education Committee	City Architect, Town Hall, Hull	do.

CONTRACTS.—*Continued.*

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, etc., supplied by	Tenders to be delivered
Paving, etc. of Streets at Pelaw	Felling U.D.C.	Surveyor, Council Buildings, Felling, R.S.O.	June 27
Road Materials	East Stonehouse U.D.C.	F. A. Wiblin, Surveyor, Town Hall, East Stonehouse	do.
Electric Light at Schools, Great Yarmouth	Education Committee	J. M. Cockrill, A.R.I.B.A., Town Hall, Great Yarmouth	do.
Cleaning, etc., Council Schools	Bolton Education Committee	F. Wilkinson, Education Offices, Nelson-square, Bolton	do.
Cleaning, etc., Voluntary Schools	do.	do.	do.
Repairs at Workhouse, Gravelly Hill	Aston Guardians	Clerk of Works at Workhouse	do.
Refuse Destructor Buildings, etc.	Worthing Corporation	F. Roberts, Borough Engineer, Municipal Offices, Worthing	June 28
4¼ miles of Brick Sewer (Deptford to Plumstead)	The L.C.C.	M. Fitzmaurice, Engineer, County Hall, Spring-gardens, S.W.	do.
Extension of Shunters' Cabin at Pengam	G.W. Ry. Co.	Office of Engineer, Newport Station, Mon.	do.
New Offices at Swansea-street, Cardiff	do.	do.	do.
Alterations, etc., to Tabernacle Con. Ch., Abertillery	.....	Habershon, Fawckner, & Co., Architects, 41, High-st., Newport	do.
Loopline at Grafton, near Savernake	G.W. Ry. Co.	Engineer, Paddington Station, London	do.
*Additions, Infectious Diseases Hosp., Mill-lane, Liscard	Wallasey U.D.C.	District Engineer and Surveyor, Public Offices, Egremont, Cheshire	do.
Stone Bridge on the Usk at Kemeys Commander	Monmouthshire County Council	W. Tanner, F.S.I., County Surveyor, Newport	June 29
447 yds. (12 in. by 6 in.) Norway Granite Kerbing	Braintree U.D.C.	H. H. Nankivell, Surveyor, Vestry Hall, Braintree	do.
447 yds. Scored Brick Channeling	do.	do.	do.
Screw-cutting Lathe and Electric Motor	Edinburgh and Leith Fire Brigade	The Firemaster	do.
Labourer's Cottage at Shrubs	North Dublin R.D.C.	J. O'Neill, Clerk, North Brunswick-street, Dublin	do.
Three Cottages at Tonlegee	do.	do.	do.
Two Cottages at Baldoyle	do.	do.	do.
Two Cottages at Newtown	do.	do.	do.
Three Cottages at Finglas East	do.	do.	do.
*Clean. & Paint., etc., Venetian Blinds, Homerton Infirm.	Hackney Guardians	Clerk's Office, Sidney-road, Homerton, N.E.	do.
*Clean., Distempering, & Paint., Homerton Infirmary	do.	do.	do.
*Twenty-two Cottages, Leavesden Asylum	Metropolitan Asylums Board	Office of the Board, Embankment, E.C.	do.
*Road-making and Tar Paving, Millfield Homes	do.	do.	do.
*Repairs to Tar Paving, Park Hospl., Hither Green, S.E.	do.	do.	do.
*Surf. Water Drainage & Repairs to Tar Paving, Sutton	do.	do.	do.
Lifeboat-house, Throston, Hartlepool	National Lifeboat Institution	W. T. Douglass, Engineer, 15, Victoria-street, Westminster	June 30
Making-up Napleton-road	Ramsgate Town Council	T. G. Taylor, Borough Surveyor, Albion House, Ramsgate	do.
2,000 yds. 12-in. c.i. Pipes	Kettering U.D.C	T. Reader Smith, Engineer, Market-place, Kettering	do.
Public Washhouse, Springfield-street, Old Swan	Liverpool Corporation	W. R. Court, Engineer, Municipal Offices, Liverpool	do.
Pull'g D'n Old Hotel de Ville, etc., Infirmary-st. Leeds	.....	T. Winn & Sons, Architects, Leeds	do.
Paving Streets	Gateshead Corporation	J. Bower, Borough Engineer, Town Hall, Gateshead	do.
1,000 sq. yds. Cement Concrete Foot Pavements, etc.	Burgh of Duns	J. Miller, Town Clerk, Duns	do.
*Erection of Public Library, Herne Hill	Lambeth Borough Council	H. Wakeford & Sons, 267, Clapham-road, S.W.	do.
Town House, Burgh of Cowdenheath	Burgh Commissioners	T. Hyslop Ure, Architect, 43, Carnegie-street, Dunfermline	July 1
Repairing Transept and South Wall, Ashwater Church	.....	Rectory, Ashwater, Devon	do.
Works at Portora Royal School, Enniskillen	.....	At the School	do.
*New Coastguard Build'gs, Cliffe Creek, nr. Gravesend	Admiralty	Director of Works Department, 21, Northumberland-avenue, W.C.	do.
*New Coastguard Buildings at Boscastle	do.	Superintending Civil Engineer, H.M. Dockyard, Devonport	do.
*Supply of Materials, &c.	Ealing Town Council	Borough Surveyor, Town Hall, Ealing, W.	do.
Alterations, etc., at Workhouse, Old Windsor	Windsor Guardians	Edgington & Summerbell, Architects, 7, Park-street, Windsor	July 2
Painting Gates and Railings, Carlow Court House	Carlow County Council	Secretary, Court-house, Carlow, Ireland	do.
Gas Piping and Fittings at Carlow Court House	do.	do.	do.
Making Red Lion-lane, Little Sutton	Wirral R.D.C.	T. Davies, 33, Kingsland-road, Birkenhead	do.
230 yds. of Pipe Sewers, etc., at Power Station Site	Handsworth U.D.C.	H. Richardson, Eng. & Sur., Council H'se, Handsworth, Birming'm	July 4
Public Library, Gainsborough	U.D.C.	Scorer & Gamble, Architects, Bank-street-chambers, Lincoln	do.
Kerbing, Mill-lane, Chadwell Heath	Romford R.D.C.	G. Lapwood, Highway Surveyor, Victoria-chambers, Romford	do.
Kerbing, North-street, Hornchurch	do.	do.	do.
*Roads and Drainage, Napsbury Asy., nr. St. Albans	Middlesex County Council	Young & Brown, 104, High Holborn, W.C.	do.
*R'lway Sid'g, Br'ch Line, etc. do. do.	do.	do.	do.
*Fencing, Gates, etc. do. do.	do.	do.	do.
Weighbridge at Workhouse, Old Windsor	Windsor Guardians	At the Workhouse, Old Windsor	July 5
2 Cott's, Lime, etc., Stores, etc., Dedworth-rd., Clewer	New Windsor Town Council	E. A. Stickland, Borough Surveyor, Alma-road, Windsor	do.
Sewers and Surface Water Drains	Dover Town Council	H. E. Stilgoe, Borough Engineer, Maison Dieu House, Dover	do.
*Tar Paving Works to Schools	Leyton Education Committee	W. Jacques, Architect, 2, Fen-court, Fenchurch-street, E.C.	do.
*Clean., Paint., Repairs, & Improvements to Schools	do.	do.	do.
*School Buildings, Reading	Reading Education Authority	S. S. Stallwood, Architect, Market-place, Reading	do.
Coal Breaking and Elevating Plant	Oldham Gasworks Committee	A. Andrew, General Manager	July 6
Inclined and Horizontal Retorts	do.	do.	do.
Stoking Machinery	do.	do.	do.
Lifeboat House and Slipway, Tenby	National Lifeboat Institution	W. T. Douglass, Engr. and Archt., 15, Victoria-st., Westminster	do.
1,700 yds. of Kentish Flints	Clacton U.D.C.	A. R. Robinson, Surveyor, Town Hall, Clacton-on-Sea	do.
2,000 tons of Guernsey Granite	Wanstead U.D.C.	C. H. Bressey, Surveyor, Council Offices, Wanstead	do.
*Reconstruction, etc., to Church & Schools, Dorchester	Trustees	W. E. Dibben, Secretary, 24, South-street, Dorchester	do.
*Painting at Infirmary, Brook-street, S.E.	Lambeth Guardians	Guardians' Offices, Brook-street, Kennington-road, S.E.	do.
*Decorative Repairs at Infirmary, East Dulwich	Southwark Guardians	G. D. Stevenson, Architect, 13 & 14, King-street, E.C.	July
*Collection and Storage of Rainwater, Stifford, Essex	Stepney Guardians	F. R. Smith, 13, Victoria-street, S.W.	do.
Alteration, etc., of St. Mary's Church, Cardigan	.....	J. Evans, Auctioneer, Cardigan	July 9
Three Three-Ton Electric Travelling Jib Cranes	The L.C.C.	County Hall, Spring-gardens, S.W.	July 12
Two Electric Locomotives at Greenwich Wharf	do.	do.	do.
Fire Brigade Hose Carriage	Dundee Town Council	J. S. Weir, City Firemaster, Dundee	do.
*Extension to Boiler House at Electricity Works	Wimbledon U.D.C.	Council's Engineer, Broadway, Wimbledon	July 14
Machinery, Trowbridge Sewage Works	Trowbridge U.D.C.	W. H. Stanley, Engineer, Market House-chambers, Trowbridge	July 18
Two 32-ton Electric Coaling Hoists, Clydebank	Clyde Navigation Trustees	G. H. Baxter, Mechanical Engineer, 16, Robertson-street, Glasgow	July 25
Six Miles of 14-in. c.i. Water Pipes, Conisbro'	Doncaster Corporation	W. H. R. Crabtree, C.E., Mansion House, Doncaster	No date.
Hall, Penydarran, Merthyr	Welsh Presbyt. Forward Movement	Habershon, Fawckner, & Co., Architects, 14, Pearl-street, Cardiff	do.
500 tons of Road Metal	Bridge of Allan Town Council	Henderson, Surveyor, Bridge of Allan	do.
Additions to Stadhampton School, Wellingford	.....	Tollit & Lee, Architects, 7, St. Aldate's-street, Oxford	do.
Brickwork for Four Houses	.....	Pinkney, Haughton-road, Darlington	do.
Rebuilding of Cartshed	.....	G. Bolland, Church View, Hunton, Bedale	do.
Clearing Topwood from 20 Acres of Land at Dimsdale	.....	T. C. Wyse, Land Agent, Darlington	do.
500 tons of Broken Granite	West Suffolk County Council	A. Ainsworth Hunt, County Surveyor, Sudbury, Suffolk	do.
Boundary Wall, St. James's Park Estate, Harrogate	.....	J. Ellis Marten, Architect, Prince's-chambers, Harrogate	do.
308 yds. of 9-in. Sewer at Bates' Cottages	Earsdon U.D.C.	J. R. MacMillen, Council Office, Shiremoor	do.
Sinking Two Shafts	.....	W. D. Wadsworth, 1, Devonshire-street, Chesterfield	do.
Taking Down Premises on Kingsdown-parade	Bristol Co-operative Society	La Trobe & Weston, Architects, 20, Clare-street, Bristol	do.
Shops, Offices, etc., Jameson-street, Hull	Mr. E. Cooke	Freeman, Son, & Gaskell, Architects, 11, Carr-lane, Hull	do.
*Erection of Chapel, Totland Bay, Isle of Wight	The Trustees	S. E. Tomkins, Architect, Newport, Isle of Wight	do.
*Erection of Schools, Newport-road, Aldershot	Aldershot Urban Council	Council's Surveyor, Council Offices, Aldershot	do.
*Painting, etc., Works, Infantry Barracks, York	War Department	Royal Engineer's Office, Fishergate, York	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in
*Building Surveyor	Derbyshire Education Committee	Not Stated	June 30
*Chief Assistant	Devon C.C. Education Committee	200*l.* per annum	do.
*Clerks of Works (Two)	do.	100*l.* per annum	do.
*Quantity Surveyor	Acton U.D.C.	(See Advertisement this Issue)	July 4
*Assistant Civil Engineers	Civil Service Commissioners	Not Stated	July 7
*Teacher of Building Construction	Middlesex Education Committee	10*s.* per Lesson	No date.
*Second Assistant to Superintendent of Buildings	British Central Africa Protectorate	250*l.*, etc.	do.

TENDERS.—*Continued from page 673.*

PLYMSTOCK.—For laying 9-in. sewer pipes and constructing tanks and outfall works at Lower Hooe, for the Plympton St. Mary Rural District Council. Mr. F. A. Clark, engineer, 83, Old Town-street, Plymouth:—
Steer & Pearce, 8, Carfrae-terrace, Plymouth* £1,047

PORTMADOC.—For repair and maintenance of the main roads in Merioneth other than those in urban districts, for the County Council. Mr. E. Vaughton, C.E., Arthog, Dolgelly:—

	Per annum.
Thomas & Lloyd.	
If contract let for three years	£5,393 3 4
If contract let for five years	5,000 0 0
L. Sommerfeld.	
For three or five years, at the option of the County Council	8,971 6 0
Davies Bros., Barmouth.*	
For five years	4,603 15 0

RAMSGATE.—For supplying 2,000 feet of granite channel, for the Corporation. Mr. T. G. Taylor, Borough Engineer, Ramsgate:—

G. A. Watson & Son, Ltd.	1 4½ per ft.
Goodchild & Co.	1 1 ,,
Griffiths & Co.	1 1 ,,
Brookes, Ltd.	1 1 ,,
E. J. Van Praagh & Co.	1 0½ ,,
Bichfeldt & Co.	1 0½ ,,
T. & F. Manuell, London*	1 0½ ,,
J. Gordon & Son	1 0¼ ,,

RAMSGATE.—For making-up passage at rear of Winstanley-crescent and Alexandra-road, for the Corporation. Mr. T. G. Taylor, Borough Engineer, Albion House, Ramsgate:—

Tobin & Co. ..	£263 18 6	W. Wilson, Ramsgate* ..	£170 0 0
G. Home	223 10 6		
J. K. Bugden	202 10 0		

RYDE (Isle of Wight).—For reconstruction of portions of promenade pier, for Ryde Pier Co. Mr. T. R. Saunders, C.E., Belgrave-chambers, Ventnor. Quantities by engineer:—

J. Shelbourne & Co.	£13,220 0 0
London and Tilbury Lighterage Contracting and Dredging Co.	10,925 6 1
J. Cochrane & Sons	8,730 0 0
A. Fasey & Son	8,567 10 3
F. Bevis	8,495 0 0
Mayoh & Haley	7,845 9 2
W. Rigby	7,487 0 0
W. A. Baker & Co., Ltd.	7,443 5 0
A. Thorne	7,381 13 0
F. Grace, 45, Avenue-road, Southampton*	7,035 0 0

SEVEN KINGS.—For Seven Kings U.M.F. church and school. Messrs. George Baines and R. Palmer Baines, architects, 5, Clement's-inn, Strand, London, W.C.:—

	A.	B.
H. J. Carter	£3,541 ..	£564 0 0‡
J. W. Jerram	3,536 ..	677 0 0
F. Gough & Co.	3,400 ..	664 0 0
F. Bull	3,297 ..	574 0 0
G. J. Hosking	3,223 ..	557 0 0
S. J. Scott	3,212 ..	556 0 0
Sands, Palmer, & Co.	3,117 ..	602 2 0
F. J. Coxhead	3,112 ..	597 0 0
Turtle & Appleton	3,130 ..	525 0 0
Battley, Sons, & Holness	3,097 ..	526 0 0
F. & A. Willmott	2,994 ..	511 0 0
C. North, Grove Works, Manbey Park, Stratford*	2,922 ..	521 0 0

‡ Plus £150 for seating.
[Architects' estimate, £3,641].

SOOTHILL NETHER.—For erecting retaining walls, etc., in connexion with the High-road improvement, for the District Council. Mr. J. H. Ward, surveyor:—
J. Pickersgill, Street-side, Ossett.... £216 6 0

SOUTHAMPTON.—For supply and erection of softening plant at Otterbourne Waterworks, for the Corporation. Mr. William Matthews, waterworks engineer, Southampton:—

J. Cochrane	£3,125
J. Simpson & Co., Ltd., Grosvenor-road, London*	2,762

ST. MARY CRAY (Kent).—For the erection of a pair of cottages at Sheepcote. Mr. G. St. Pierre Harris, architect and surveyor, 8, Ironmonger-lane, E.C., and Orpington:—

R. A. Lowe	£778 0	A. Pannett*	£495 10
T. Knight	609 0	J. Smith‡	389 0
Somerford & Son	572 0		

‡ Withdrawn.

STONE.—For new tramp wards at workhouse, for the Guardians of the Poor of Stone Union. Messrs. Jones & Hilton, architects, Stone. Quantities by the architects:—

W. Grant & Son	£1,425 0 0	T. Godwin ..	£1,313 0 0
W. Whitfield	1,420 0 0	J. Wilcox ..	1,298 18 2
G. Ellis	1,389 0 0	T. Moss	1,228 11 0
J. Bagnall ..	1,359 0 0	J. Charlesworth, Wolstanton* ..	1,189 0 0
W. Cooke	1,346 0 0		
Tomkinson & Betteley ..	1,327 0 0		

TEIGNMOUTH.—For alterations and additions to the Wesleyan Methodist Chapel, for the Trustees. Mr. A. J. Cornelius, architect, Truro:—

R. F. Yeo & Sons	£234 0 0	A. Sampson ..	£124 15 0
E. Andrews ..	125 0 0	J. J. Hayman, Teignmouth*	123 0 0

TROWBRIDGE.—For paving and channelling works, for the Urban District Council. Mr. H. G. Nicholson-Lailey, Town Surveyor, Town Hall, Trowbridge:—

Asphaltes United	£504 10 0	S. T. Clothier..	£375 12 6
T. Gibbons	459 2 6	S. Ambrose ..	362 10 10
Grounds & Newton	438 0 0	E. Ireland, Morecambe*	354 11 8
North of England Asphalte Co.	400 17 6	Free Bros.....	328 15 0
		T. Free & Co...	281 5 0

TWICKENHAM.—For forming, levelling, kerbing, channelling, paving, etc., part of Whitton-rd., for the Urban District Council. Mr. F. W. Pearce, surveyor, Town Hall, Twickenham:—

Kavanagh & Co.	£1,192 0	T. Adams	£995 0
Parry & Co.	1,080 0	E. A. Sparksman	932 0
A. B. Champness	1,072 7	Mowlem & Co., Westminster* .	915 0
Wimpey & Co...	999 0		

WOLVERHAMPTON.—For addition to car-shed in Cleveland-road, for the Tramways Committee. Mr. G. Green, Borough Engineer, Town Hall, Wolverhampton. Quantities by Mr. Vale, Wolverhampton:—
H. Willcock & Co., Wolverhampton* .. £2,587

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